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CONTENTS

Fourteenth International Railway Congress

NEXT Monday, the 14th International Railway Congress will open at Lucerne, and will continue throughout the week. These congresses attract world-wide interest and are attended by delegations from all parts, although the principal activities always have been directed from Europe. Membership of the International Railway Congress Association is limited to countries and administrations operating at least 100 km. of railway, using mechanical traction, and registering traffic receipts of at least 2,000,000 gold francs (approximately £80,000) a year. Lucerne has been chosen for the impending Congress because of the facilities offered by its Kongresshaus, and also because of its interest from the tourist viewpoint. The list of questions for discussion covers sleepers, the reduction of weight of both passenger and goods rolling stock, the organisation of train services, and the relative merits of steam and and electric traction, railway housing policy, and so forth. In our last week's issue we gave summaries of the principal papers. The Congress, which opens next week, will be the first since 1937, when the meeting was in Paris. Particular interest attaches to next week's proceedings because of the lapse of time since the previous Congress, and because of the experience which has been gained from developments all over the world during the interval. The British railways are sending important delegations, as also are many of the principal railway administrations of the world.

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New Cost-of-Living Index

With commendable speed the Government has fixed June 17 as the base date of the new interim index of retail prices which is to replace the existing, and long since out of date, cost-of-living index. On that date the new index will commence at 100, and on July 15 and monthly thereafter, prices will be collated for the new index. The calculation at July 15 should be known about mid-August. The new index differs fundamentally from that at present in use, and it will not show the rise in the cost of living since 1937-38. An explanatory leaflet* has been issued showing the items included in the new index and their weighting. It is much more broadly based, and the proportion of the total expenditure of a household on the various items has undergone great changes. Meantime, wage agreements dependent on the old index, which cover some 2,500,000 workers, will have to be reviewed, for in many cases changes in wage rates have been tied to fluctuations in the index, and in the others these movements have been acknowledged as a relevant consideration.

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L.M.S.R. "Princess Victoria"

The replacement of coal-fired steamers on the L.M.S.R. cross-channel services by oil burners, and re-routing them during the fuel crisis, effected a saving of coal which was increased to 1,060 tons a week when the new motorship *Princess Victoria* was hurriedly put on the Stranraer-Larne route on March 17. Due to this, the customary inauguration ceremony of introducing a new ship to traders and others in the passenger services, was postponed until Thursday in last week, when the L.M.S.R. entertained a party of guests to a cruise aboard the *Princess Victoria* which included two crossings, in each direction, of the Stranraer-Larne route, for which she was designed. The guests were received by Mr. G. L. Darbyshire and Mr. T. W. Royle, Vice-Presidents, L.M.S.R., and welcomed in a speech at the luncheon by Sir Robert Greig, representing the L.M.S.R. Scottish Committee. This vessel, built by William Denny & Bros. Ltd., Dumbarton, was illustrated in our issue of May 16, and replaces a somewhat similar motorship built in the same shipyard just before the war and sunk on war service in 1940.

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New London Transport Carriage Experiment

The London Passenger Transport Board placed in service on June 11 a new type of carriage destined eventually for electric trains between the City and Amersham. In an earlier vehicle intended for these services, the Board divided the saloon interior into three sections, with a side corridor. It was found in practice that passengers tended to congregate in the corri-

* "Interim Index of Retail Prices." H.M. Stationery Office. Price 2d.

dor without making full use of the ample standing space provided in the entrance vestibules, and between the seats. The new vehicle reverts to the centre corridor arrangement, and invites the use of vestibules for passengers standing on short-distance journeys by providing the usual hanging hand-grips in one of them, and a central pole in the other. Seating is of the semi-bucket type, and the carriage is equipped with fluorescent lighting. The efficiency of the Board's standard type of hinged ventilators is supplemented by the provision of electric air-circulators in the roof. The introduction of the carriage shows that the Board is continuing to investigate the type of accommodation most acceptable to passengers on a route which includes crowded City sections and outer suburban stations with relatively sparse traffic.

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Electric Traction Progress in Sweden

An impetus was given to railway electrification in Sweden by the coal shortage during the war, so that the electric mileage increased from 2,250 miles in 1939 to 2,796 miles in 1945. In the latter year approximately 84 per cent. of the traffic on the Swedish State Railways was worked by electricity. An article elsewhere in this issue describes the characteristics of the 16,000-V. single-phase system adopted on the State Railways, and reviews also some current developments in the Swedish heavy electrical industry. For a long time a standard type of 1-C-1 electric locomotive of 2,000 h.p. hauled the bulk of the State Railways passenger and goods traffic, and still accounts for 60 per cent. of the locomotive stock. A recent addition has been a more powerful machine of 3,500 h.p., having the 1-Do-1 wheel arrangement, for heavy express duties. Passenger trains are limited to 600 tons, and goods trains to 900 tons, except that iron-ore trains in the North of Sweden are made up to 2,000 tons. The iron-ore traffic is worked by 1-CC-1 locomotives of 2,900 h.p. Multiple-unit passenger trains are used only to a limited extent, but some four-car sets with a maximum speed of 70 m.p.h. are under construction.

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Burma Railways Sidelights

December 23 last was a notable date in the annals of the Burma Railways, for it was marked by official celebrations of the termination of the first year of civil control since the Japanese were driven out of the country, and also by the completion of the rebuilt permanent bridge over the river Myitnge (pronounced Myingaye) near Mandalay. Being the most important link in the Rangoon-Mandalay lines of communication, this bridge was our bombers' priority target every time it was repaired temporarily by the enemy. To give some idea of the intensity of the bombing in its immediate vicinity, it is necessary only to mention that over 300 bombs fell in the area of the comparatively small adjacent carriage and wagon workshops, also a favourite target. The various bridges and the reconstruction work now completed at Myitnge are described in an article elsewhere in this issue. Burma Railways locomotives and rolling stock suffered severely during the war, and only one of the 13 " YC " Pacifics had by then been able to be repaired and returned to service; it was this engine that was used to break the red tape cordon to open the reconstructed bridge, as shown in one of the illustrations with the article. A feature of the reconstruction was the close co-operation between the Burma Railways and military engineering personnel.

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Getting Rail Fissures under Control

At last the transverse fissure trouble in rails in the United States appears to be taking a turn for the better. Statistics for 1945 show that for the second year in succession, the transverse fissure failures were less in number than those of the preceding year. The total reported for 1945 was 36,520, 30,813 located by detector cars and removed before failure, while the remaining 5,707 broke in the track. Although these totals included 50 breakages of controlled-cooled rails, the failures were traced in all these cases to causes other than shatter cracking. Most of the defects in the latter case were due to porosity of the steel, particularly from two mills at which it has been the practice to re-heat the steel blooms between the blooming and the roughing and finishing rolls. Whereas in 1935 only 14 per cent. of the United States rail production was subjected to controlled cooling, by 1939 the percentage had risen to 91 and by 1944 to 99 per cent. The reliability of the cure for shatter-cracking that has been brought about in this way is evident by comparison of the failure records, in tracks laid with these rails, with earlier rails normally cooled, and as more and more controlled-cooled rails are laid in, the transverse fissure failure curve may be expected to decline steadily. Meantime, however, serious derailments are still being caused by the breakage of undetected fissured rails of earlier manufacture, as on the Southern Pacific of the " Owl " express at Lerdo, California, on January 17 last, and at Republic, Missouri, with the " Will Rogers " of the St. Louis-San Francisco on February 7.

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Cast-Steel Bogie Frames

Although the use of steel-plate side frames for bogies has been a most tenaciously held feature of British locomotives and rolling stock, there are signs now that this too rigorous adherence to tradition is being relaxed somewhat. Although cast frames have been used abroad, particularly in North America, for many years, it was of especial interest to record their incorporation in two recent British products: the double-bogie tenders of the U.N.R.R.A. " Liberation " 2-8-0 locomotives built by the Vulcan Foundry Limited, and the new 40-ton rail wagons for the Southern Railway. These castings were produced by the English Steel Corporation, Sheffield, by arrangement with Davis & Lloyd Limited, which firm holds the licences from the principal American foundries and also carries out the designs for the British market. The claims made in favour of cast-steel bogie frames are reasonable; and as they can show, among other advantages, definite savings in regard to assembly time, maintenance costs, and renewals necessitated by wear, their adoption is likely to increase. Among the technical advantages which they offer are: a greater strength, accompanied by a reduction in weight; a satisfactory longitudinal stability, especially in a good design with widely spaced springs; and a good stress distribution. A further advantage is that certain items such as brake cylinders, brake hangers, and axleboxes can be cast integral with the main casting, thus facilitating construction and at the same time allowing more space for brake rigging.

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Power Reverse Gears

For locomotives of small dimensions, such as were used generally in the early days of railways, the hand-operated lever reversing gear was not objectionable; but even so, we find that by 1859 John Ramsbottom had introduced the screw reversing gear on the L.N.W.R. This was a great advance, but not enough to satisfy everyone, for only fifteen years later James Stirling applied his first type of steam reversing gear to an early 4-4-0 inside-cylinder locomotive on the Glasgow & South Western Railway. Thereafter, power-operated reversing gears made steady, if unspectacular, progress in this country. Apart from its pioneer application north of the border, the gear was taken by Mr. Stirling with him when he became Locomotive Superintendent of the South Eastern Railway, and at later dates the London & South Western and the North Eastern adopted steam reversing gears. On the London, Brighton & South Coast Railway, William Stroudley, who believed in making the Westinghouse brake system on his engines serve for various other purposes besides, introduced the "air-assisted" reversing gear, which was continued by his successor, and is still in use on large numbers of ex-Brighton engines. One of the neatest and most successful of all designs of power reverse, however, was that devised at Stratford for the Great Eastern Railway, which was fitted to the locomotive *Claud Hamilton* in 1900, and afterwards was extensively used. One curious feature of the application of these devices in Great Britain has been that, although they are most often applied (very properly) to heavy main-line

express engines, they are most seldom to be found on shunting locomotives—the very kind in which reversing is most called for.

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An Oil-Burning Locomotive Problem Solved

From Eire comes an interesting account of how a difficulty which arose in connection with oil-fired locomotives has been overcome. The Irish Transport Company has converted twenty locomotives to burn oil, and is adding to their number at the rate of two or three each week. An acute shortage of constructional materials for storage tanks exists; and at present engines can be refuelled only at Dublin, which limits their radius of operation to about 100 miles with the present 1,300-gal. fuel tanks on the tenders. However, Inchicore engineers have now produced a mobile fuel tank to run immediately behind the tender, with an axle-driven pump which fills up the tender tank as oil is consumed on the locomotive. In addition to the flexible connection thus required, steam heating is provided for the oil in the mobile tank. An engine thus equipped can run from Dublin to any point on the system and back, without refuelling. The method at present is intended to be confined to goods traffic, but may be extended later to passenger trains. Six of these mobile tanks are under construction, and the number may be increased if materials for building storage tanks continue to be scarce. An incidental advantage is that a mobile tank can be used to deliver oil to the fuel tank of another engine, or into fixed installations if the latter materialise at a later date. In addition, obsolete tenders are being adapted to the transport of fuel oil.

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Railway Stockholders' Benefits and Hopes

UNDER the provisions of the Transport Bill as originally drafted, the net revenue for the final period, which embraces the two years ending on December 31, 1947, is limited to (*a*) amounts receivable under the railway control agreement and (*b*) net revenue from excluded properties, such as road transport undertakings, and so on, which were outside the agreement. During the Committee stage of the Bill in the House of Commons, the Government was pressed strongly to allow the companies to distribute certain additional monies in accordance with the normal accountancy practice. These monies include profits from the realisation of investments and the adjustment of net revenue balances for previous years, which have been held in suspense.

The Government later tabled an amendment to Clause 20 of the Bill (which deals with payments by the Commission in respect of profits for the period preceding the date of transfer) which requires the Commission to make additional payments to the controlled undertakings of £1,813,000, made up as follow:—G.W.R., £574,000; L.M.S.R., £799,000; L.N.E.R., £150,000; Southern Railway, £227,000; L.P.T.B., £63,000. This amendment was carried, and the additional sums will be available for distribution to the ordinary stockholders when the final dividends are paid.

On the general question of compensation, the House of Lords has already negatived without a division a proposal that the aggregate compensation payable should be increased by 20 per cent. Special interest attached, therefore, to an amendment which Lord Dudley tabled proposing that railway stocks should be exchanged for Government stock on a basis which will yield interest to railway stockholders at a rate equal to the average yield obtainable on gilt-edged securities in the pre-election period.

The basis of this amendment was that during the interval between the dates on which the Stock Exchange prices were taken as the basis on which railway stocks should be exchanged, and the date on which they are actually to be exchanged, there has been a marked fall in the interest rates on gilt-edged securities, influenced largely by the Chancellor of the Exchequer. It is claimed, therefore, that it is only fair that compensation should be related to the pre-election prices of both railway stocks and gilt-edged securities. We understand that, if this amendment were passed and subsequently accepted by the Government, it would increase the annual interest payments to stockholders proposed under the Bill by nearly £2¼ million.

Transport Bill Amendments

THERE was a marked difference in the general level of the debate in the House of Lords when the Transport Bill was being considered in Committee on three days last week and the proceedings during the Committee Stage of the Bill in the House of Commons. The Conservative peers made it clear at the outset that they proposed revising the Bill to make its provisions clear and workable, and they have already achieved considerable success in this direction.

As was briefly recorded in our last week's issue, on the first day, despite strenuous previous Government opposition in the House of Commons to all attempts to enlarge the size of the British Transport Commission, Viscount Addison, for the Government, accepted an amendment enlarging the Commission from "a Chairman and four members" to "a Chairman and not less than four and not more than eight members." He also agreed that not less than four of the members should be required to devote their full time to the Commission's work. Next, the Government accepted an amendment providing that full details should be given both Houses of Parliament of the salaries and other allowances to be paid to members of the Commission.

The Government also agreed to frame an alternative form of words for insertion in the Bill making it clear that the Commission would not store goods which have not been, or are not to be, carried by it. To meet other criticisms the Government agreed to insert additional words on the Report stage providing that the Commission shall be empowered to provide houses, hostels, and other like accommodation for its employees, and to make housing loans to its staff, if the law officers advise that the Bill as drafter does not already enable the Commission to do so. An amendment was also moved on behalf of the Government preventing the Commission manufacturing chassis and bodies, either directly or indirectly, except for the purposes of its own undertaking, and it was agreed that the question of limiting the extent of such building should be left for consideration on the Report stage. Altogether it was a very satisfactory day's work.

On the following day, however, the Government did not prove so amenable, and, in fact, three amendments were moved against it. The first transferred the power of appointing the five Executive bodies from the Minister to the Commission, a most desirable change from the latter's point of view, but one which would lessen appreciably the control of the Minister over the Commission. In this connection it is of interest that Viscount Addison promised in the discussion of Clause 4 of the Bill that the Minister's powers to give directions to the Commission would be given only sparingly—an assurance genuinely given, but one which has not legislative force.

The second amendment passed against the Government's wishes was that the Minister should not be entitled to give a direction to the Commission which will cause its revenue to be less than sufficient for meeting its charges, taking one year with another, unless the Minister notifies the Commission that the direction is given in the interests of national security.

The third defeat of the Government was on an amendment to exclude docks from the jurisdiction of the Docks & Inland Waterways Executive. The full effect of this amendment cannot be seen, however, until later clauses are discussed. As proposed in the Bill, all the railway-owned docks will automatically become vested in the Commission on January 1, 1948, but amendments to be moved after Clause 65 is reached propose that as from January 1, 1951, the powers of the Commission to provide port facilities shall cease, and that within a specified period after the vesting the Commission is to submit to the Minister schemes for disposing of every trade harbour vested in it. This also was a day of important decisions.

By contrast, the debate on the third day was not so clear cut, because of the different nature of the amendments. A very lengthy but unsuccessful attempt was made to secure the appointment of a Scottish Transport Executive, and an amendment to secure the appointment of the Hotels Executive on the vesting date instead of a later date was also withdrawn. On the motion that Clause 5, as amended, should stand part of the Bill, Lord Balfour of Burleigh took the opportunity of making it clear that the present Railway Executive Committee is the agent of the Minister of Transport for giving directions

to the railways, but the railway companies throughout the whole of the war, and until they are decontrolled or vested in the Commission, are responsible for the day-to-day management. As both the Railway Executive Committee and the railway companies would cease to exist under the Bill on January 1 next, he expressed considerable concern as to the possibility of adequate arrangements being made between the passage of the Bill and the end of the year to ensure the continued functioning of the many activities of the railways.

A strong attempt by Lord Beveridge to secure an increase of 20 per cent. in the aggregate compensation payable to railway stockholders was supported by a number of speakers. He argued that Stock Exchange prices were not a fair basis for compulsory wholesale expropriation of the undertakings. Viscount Simon strongly supported the amendment and pleaded for the establishment of an independent arbitration tribunal to assess fair compensation. The amendment was resisted strongly by the Government, which claimed that Stock Exchange prices were a fair criterion of the railways' value and pointed out that the proposal would add £200 million to the compensation payable—which was unthinkable. Eventually this amendment was negatived without a division and the debate adjourned.

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Swiss Federal Railways Results

THE report for 1946 of the Swiss Federal Railways emphasises the satisfactory development of traffic and the good financial results attained in the year under review. Passengers carried in 1946 totalled 206,450,000, exceeding the 1945 figure by 1,560,000 or 0·8 per cent. As compared with the exceptional passenger traffic during the war, the increase in 1946 is on a smaller scale. Passenger receipts totalled fr. 258,200,000,* an increase of fr. 3,990,000 or 1·6 per cent. compared with 1945, and represented 44 per cent. of the total working receipts. In 1946, passenger-km. declined to 5,444,500,000 from the 5,654,900,000 attained in 1945, the highest ever recorded. This contraction, in the light of the increased number of passengers, points to an increase in short-distance season tickets, as well as to an improvement in the yield per passenger-km. (4·74 centimes in 1946; 4·5 centimes in 1945). In addition, it testifies to greater use being made of first and second class accommodation.

The increase in the traffic has been striking. Goods conveyed, including luggage, livestock, and mails, totalled 16,880,000 *tonnes* in 1946, an increase of 3,550,000 *tonnes* or 26·6 per cent. over 1945. This increase has been due, in the main, to the great expansion of foreign trade and to the consequent greater density of home traffic. Goods receipts totalled fr. 305,590,000 in 1946, or fr. 66,880,000 (28 per cent.) more than in 1945. Merchandise and minerals represented 45·7 per cent. of the total working receipts, luggage receipts 2·8 per cent., livestock receipts 1 per cent., and receipts from the conveyance of mails 2·6 per cent.

Tonnes-km. aggregated 1,702,200,000 in 1946, a notable increase over 1945 (1,283,800,000 *tonnes*-km.), but still considerably below the record attained in 1941 (3,520,200,000 *tonnes*-km.). This position is due to the low level of transit traffic and to the decline in goods requiring long-distance haulage. In 1945, transit traffic totalled only 141,000 *tonnes*, less than half the total attained in 1936 (309,000 *tonnes*). Both these figures were far outstripped by the transit traffic of 3,720,000 *tonnes* in 1944 (probably due to the intensive traffic between Germany and Italy). On the other hand, *tonnes*-km. aggregated 1,435,300,000 in 1936, and 2,238,600 in 1944. As to the increase in traffic with abroad, the following totals were reflected by favourable figures in the goods receipts of the Federal Railways: total imports, 1945, 1,542,000 *tonnes*; 1946, 5,584,000 *tonnes*; total exports, 1945, 182,000 *tonnes;* 1946, 508,000 *tonnes*.

Miscellaneous receipts in 1946 were 3·9 per cent. of the total working receipts, which amounted to fr. 586,500,000, as compared with fr. 511,600,000 in 1945, a result never attained before. Working expenditure, too, reached the record level in 1946 of fr. 387,400,000 (fr. 365,200,000 in 1945). It was made up as follows: Motive power and workshops, 29·2 per cent.; stations and train services, 37·5 per cent.; maintenance and inspection of permanent way, 21·4 per cent.; general administration, 1·9 per cent.; and miscellaneous expenditure, 10 per cent. The working surplus in 1946 amounted to fr. 199,090,000, an increase of fr. 49,470,000, or 33 per cent., as compared with 1945.

The profit and loss account for 1946 closed with a credit balance of fr. 21,400,000. These were the first accounts since the financial reconstruction of the railways which became operative on January 1, 1946. In accordance with the Federal Railways Law, the sum of fr. 8,000,000 must first be paid from any credit balance into a fund intended to cover future deficits. Furthermore, the board proposed payment of an interest of 3 per cent. on the working capital. This will absorb a further fr. 12 million. In respect of the balance of fr. 1,400,000, the Federal Council will be called on to decide as to its use. Apart from this, fr. 4,700,000 had to be paid into the equalisation fund of the Swiss railway and steamship undertakings, in accordance with a decision of the Federal Council.

* Present rate of exchange, 17.34 Swiss francs to the £. Par rate, fr. 25.22

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How Switzerland is Governed

FOR reasons explained in our June 13 issue, Switzerland is much in the news at present. To add to our information about the country, the Swiss National Tourist Office has published an account of "The Political Institutions of Switzerland,"* written by George Sauser-Hall, Professor of Law in the Universities of Geneva and Newchâtel. The book explains how democracy works in Switzerland, and should appeal to travellers who consider their journeys abroad as part of a liberal education and seek to understand political developments in continental countries.

American visitors in particular will find an instructive comparison between the constitution of the United States and that of Switzerland. Ideas from the other side of the Atlantic influenced the creation of the Swiss Federal State in 1848, though the executive power in the two countries is organised on different lines. While the President of the United States can direct the whole policy of his country, the President of Swiss Federal Council, being the equal of his colleagues, wields limited authority, with even minorities participating in the executive power.

The Swiss system appears complicated for a country which is about twice the size of Wales and contains roughly twice as many people, or half the population of Greater London. The justification of the existing arrangements is that they have seen Switzerland safely through two world wars and have established a state of perpetual and absolute neutrality for its territory. Largely for that reason Geneva was chosen as the seat of the League of Nations after the first world war and continues to be the scene of deliberations of world-wide import after the second conflict. In the same way, Lucerne, undamaged by the ravages of the last war, seemed the natural centre for the International Railway Congress this year. So a summary of Professor Sauser-Hall's treatise on the political structure of his redoubtable little land may be useful to many of our readers.

The Swiss Confederation is a republic consisting of 22 cantons which are real states, exercising sovereignty side by side with the central government. The Confederation is supreme in diplomacy, military affairs, public works, education and law, but the cantons can legislate for all matters which the constitution does not expressly exclude from their authority. The Confederation alone has the right to grant concessions for railways, and reserves to itself monopolies such as customs, post office communications, coinage, and the issue of banknotes. The cantons, on the other hand, administer the laws enacted by the Confederation, supervise many social services, and develop industry and agriculture by means of subsidies. The cantons are bound to help each other in matters of civil and criminal justice.

Nowhere do the Swiss rely on the British type of representative democracy. The people elect a parliament, but also have the power to propose, adopt, and reject laws. In some cantons the people actually meet in popular assemblies to discuss public questions, much as the ancient Greeks used to do. Every male citizen over 20 years of age has the right to express his opinion on matters of policy; oddly enough,

* "The Political Institutions of Switzerland." By George Sauser-Hall. Swiss National Tourist Office Publishing Department. Zurich & New York. No price stated

women have no political rights. The referendum is used extensively in deciding whether a law shall be enacted or rejected.

The constitution guarantees to all Swiss citizens equality before the law. Freedom of conscience likewise is declared inviolable and freedom of the Press is unrestricted in normal times. Every citizen has the right to devote himself to the profession or trade which he prefers. It is illegal to limit the number of workers in a trade and to prevent newcomers from exercising their profession. The right to strike is allowed to ordinary workers, but is withheld from State employees. There is a movement on foot to solve labour difficulties by forming corporations of employers and workers to safeguard the status of different trade groups. Collective labour agreements, providing for the arbitration of disputes by neutral tribunals, are compulsory once they have been accepted by the majority of the employers and workers concerned.

The Swiss parliament bears the name of Federal Assembly. It is composed of the National Council, representing the people, and the Council of States, representing the cantons. These councils have equal rights and powers. Each of them chooses from among its members a President, who directs its proceedings for one year. Agreement between the two houses is indispensable for the framing of statutes and decrees. The executive authority of the Swiss Confederation is vested in the Federal Council, composed of seven members elected by the Federal Assembly for a term of four years. The President of the Council, however, is elected for one year only. Commonly called President of the Confederation, he represents his country at home and abroad, but does not possess the right of veto.

Until the first world war the Swiss Confederation was in a sound financial state, balancing its budget largely with the revenue from customs. Since 1914 solvency has given place to a long series of deficits. Consolidated debts have increased from 1,641 million francs to 7,128 million in 1942. These debts impose on each inhabitant a charge of 1,670 francs, of which 697 francs represent the debt of the Federal Railways. From 1931 onwards, the cantons also have borrowed money extensively, and the communes within the cantons, which correspond broadly to our urban and rural district councils, have spent more than their taxes produced. The total debts, accumulated by the Confederation, the cantons, and the communes, exceed 10,000 million francs. We do not gather from Professor Sauser-Hall's pages that the burden of public debt weighs heavily on the Swiss people. Their outlook may be restricted, but they are convinced that democracy is the form of government which best assures individual freedom, the rights of minorities, justice, and social progress.

The Swiss National Tourist Office is to be commended for its enterprise in publishing a volume which is outside the usual run of travel literature. We hope it will have its reward in the shape of a large circulation.

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Standardising Signals in Spain

THE Spanish National Railways comprise about 7,725 route-miles, all broad (Spanish standard) gauge, belonging previously to 24 separate undertakings. Of these, the more important were the Northern and Madrid-Zaragoza-Alicante Railways, each operating about 2,300 route-miles. All had adopted different systems of signalling, which in time had become extremely varied. Since the national system was formed in 1941, the question of adopting uniform signalling methods has been under discussion, and on February 1, 1946, the Minister of Public Works approved proposals for a new code of signal aspects. As already reported in *The Railway Gazette*, the extensive programme of electrification now to be undertaken renders indispensable considerable alterations and improvements to signalling at numerous stations, and the moment is opportune for introducing signalling reforms.

The two principal main lines, although adopting opposite methods of double-track running, at first both followed French practice in signalling stations, with the red outer disc as the principal or only protection, and the square absolute stop signal as a home signal, sometimes as a starting signal also. The M.Z.A. eventually used the semaphore as a stop signal, chiefly at large stations, and the Northern as a direction indicator, in the form then common in France. Later, the M.Z.A. used the 3-position semaphore for automatic signalling, and smaller lines adopted it for ordinary station signalling. In 1924, colour-light signals appeared on the Northern Railway electrified Pajares Pass section, and gradually spread. Much variation in the night indications had developed. The use of red, green, and white for stop, caution, and proceed, had been prescribed officially in 1872, but, apparently, had never been more closely defined; the night aspects on the various railway systems, therefore, had become far from uniform, and in some cases contradictory. Thus, the Northern used yellow in place of white in colour-light signals.

Interlocking did not appear until 1882, and made comparatively slow progress. The apparatus was chiefly foreign and of various designs. Single-wire, double-wire, and rod operation were used, and three or four patterns of power signalling, electric and hydraulic, were installed. More recently, apparatus of several types has been produced in Spain.

In his recent book* Señor Nogués describes the present complexity of signal aspects as a mosaic. He, as Assistant Engineer in the Traffic Department of the former M.Z.A., and Señor A. Gibert, the Electrical Engineer, reported on colour-light and automatic signalling to the eleventh International Railway Congress at Madrid in 1930. Their report urged the necessity for introducing reforms now decided on—adoption of the red, yellow, green system of aspects and abolition of the ambiguous outer-disc system of signalling, at least on important routes. There are 6,014 signals—44 operated by hand at the post, 49 by rodding, 2,931 by single-wire, 1,944 by double-wire, 306 by hydraulic, and 740 by electric power; 2,922 are outer-discs, 1,238 square stop signals, 955 semaphores, 347 light signals, and the remainder special signals. The double-wire system is tending to replace the single, especially for signals at any distance from the lever.

A critical analysis of present methods is given and the difficulties arising from the lack of uniformity in the rules concerning the outer signals are emphasised. These, with the present restriction of speed at facing points to 25 m.p.h., unnecessarily increase journey times, and much of the benefits of electrification will be lost unless these obstacles are removed. Red outer discs will remain on some routes of little importance, and the French practice of showing a red and a yellow light together for deferred stop is to be adopted. The 3-position semaphore will be the standard mechanical type signal, distant and stop, rendering double-wire working essential, but the many target pattern signals will have to be retained for some time. The round disc, painted yellow, will serve temporarily as a distant signal. Triangular and diamond-shaped targets will supplement the semaphores or, temporarily, the square signals, as "reduced speed" aspects.

Although in principle the present French system has been followed, one important deviation has been introduced: at running junctions a splitting indication is to be given at the distant signal, but not at the stop signal, to attract the driver's attention in good time if an error in routing has been made. The night indications will be red for "stop," yellow for "prepare to stop at next signal," green and yellow for "reduced speed at next signal," and double yellow for "pass at reduced speed." Blue will be used for marker lights, lunar white for shunting and certain direction indicators in stations, with violet as a stop aspect in shunt signals. Point indicators, based largely on German practice, will be the standard. They will include the Cauer type single indicator for double slips. Señor Nogués develops the reasons for the adoption of these arrangements and illustrates their application to typical layouts. His book, therefore, is of particular value to those interested in the large amount of signalling work announced as shortly to be undertaken in Spain.

PUBLIC MEETING TO OPPOSE TRANSPORT BILL.—Lord Woolton will preside at a public meeting to be held at the Central Hall, Westminster, S.W.1, on Thursday, June 26, at 7.30 p.m., to mark the culmination of the transport industry campaign in opposition to the Transport Bill during its passage through Parliament. The meeting has been organised by the Aims of Industry, the Railway Stockholders Association, and the Road Haulage Association, and the speakers will include Sir David Maxwell Fyfe, Captain Peter Thornycroft, Major David Renton, Sir Charles Stuart-Williams, and Mr. Henry Dutfield.

* *La Senaeizacion Ferroviaria Espanola* (Spanish Railway Signalling), by Julio Nogués Caiz: 92 pp., 9¼ in. x 6¼ in., 15 folding plates, including map and diagrams. Editorial Vimar, Calle del Prado 26, Madrid

LETTERS TO THE EDITOR

(The Editor is not responsible for the opinions of correspondents)

What's in a Name?

Bury Cottage, Gander Hill,
Haywards Heath, Sussex. June 11

TO THE EDITOR OF THE RAILWAY GAZETTE

SIR,—It has been suggested in the House of Lords that the proposed State transport undertaking should be called "National United Transport Services." Possibly the equally euphonious but slightly crude "British Amalgamated Locomotive and Lorry Services" may have a greater appeal in certain circles.

It does not appear that any amendment has been moved to Clause 1 (c) of the Transport Bill, so that "British Transport Commission" will be the new name. Initially, B.T.C. looks like a shorthand spelling of something to be kicked, and therefore hardly appropriate. Anyhow the "C" is not wanted. Did not the L.P.T.B. soon drop its "B"? We all know that the new concern is British, so the "B" can go as well. That leaves the "Transport," but that is such an obvious fact that the "T" can be dropped as well. There remains the full stop—hardly an auspicious symbol for the new undertakers.

The solution seems to have no initial at all to adorn the rolling stock of the future. After all, there is, or was, an excellent tobacco called No-Name (which the Commission can put in their pipes and smoke), and was it not Mr. No-Man who deceived the giant of old after he had first blinded him. Not that I am suggesting that the British public is being hoodwinked. Incidentally, Odysseus would have been a certain choice for membership of the Commission. He was a man of many devices, widely travelled, and invented the prototype of the modern bus, *i.e.*, the Wooden Horse of Troy. He knew the value of good loading, and could also draw the long bow.

Yours faithfully,
E. A. W. DICKSON

Shunting Locomotives for Steel Works

The Hunslet Engine Co. Ltd.
Hunslet Engine Works,
Jack Lane, Leeds 10. June 6

TO THE EDITOR OF THE RAILWAY GAZETTE

SIR—No facts in your editorial on "Shunting Locomotives for Steel Works" in your May 30 issue seem in any way to justify your suggestion that diesel traction would offer little inducement, even with the qualification about existing conditions.

A few diesel locomotives have been on steel works service for some years, and have earned nothing but the highest praise. Above all other types of locomotive power, they are suited to moving extremely heavy loads at low speeds, although this applies much more to the straight diesel than to the diesel-electric.

Mr. W. Morgan, of the Whitehead Iron & Steel Co. Ltd., recently gave some extremely interesting data on "Steam Locomotives *versus* Diesel Locomotives," and I append his actual remarks in this connection, from which you will note that he thoroughly recommends the diesel locomotive from actual experience in steel works:—

> At the Whitehead Iron & Steel Co. Ltd., Newport, we have two diesel-mechanical locomotives and three steam locomotives. I am therefore in a position to give my views on the performance of diesel *versus* steam, and trust that it will help this discussion. At Courtybella Works we have a site of 42 acres, with 58 sets of points and crossings, and 4½ miles of railroad feeding seven rolling mill bays; therefore, the sidings are congested. The gradients are 1 in 60 to 1 in 30, and many curves are at 120-ft. radius. From experience I can recommend thoroughly and give a very favourable report on the performance of a 137-150 b.h.p. mechanical diesel, this locomotive being ideal for general works shunting. The weight is 29 tons and the tractive effort is 15,000 lb. at first speed of 3 m.p.h. There are four speeds, the top speed being 10 m.p.h.
>
> This locomotive will haul on the level 720 tons in first, second and third speeds. I have witnessed a test with this locomotive and found that it pushed a load of 170 tons without being overloaded up to a gradient of 1 in 60 with tandem crossings and a curve at the bottom, the train consisting of coal wagons in a poor condition. Regarding running costs, a careful check was kept on this locomotive for a period of six months, that is, for maintenance, lubricating oils, pool gas oil, and cleaning materials, and the costs were found to be 1s. 1d. per hr., which you will agree is very satisfactory.
>
> A number of previous speakers stated that the maintenance costs on diesels are extremely high, but I disagree. Minor jobs of cleaning filters, and so on, are expected, but maintenance costs are still few. After 4,400 working hours, one of the locomotives recently was decarbonised, and this was carried out at a weekend by the manufacturer's "service after sales" agreement. I am comparing this diesel with our steam locomotives, which are the six-wheel coupled type, with details as follow:—
>
> | | |
> |---|---|
> | Dia. of cylinder | 15 in. |
> | Stroke | 20 in. |
> | Tractive effort (at 75 per cent. cut-off) | 14,300 lb. |
> | Weight (empty) | 27 tons |
>
> Fuel costs on this size of locomotive only amount to 4s. 6d. per hr., taking coal at 50s. a ton. Labour, washing-down, water, and so on, must be added. Regarding operation, it is sufficient to say that our diesel drivers, who were previously steam drivers, much prefer to operate the diesel, and changing gears, and similar operations, present no difficulty to them.

Your suggestion that a rigorous system of skilled maintenance would be needed and that trained staff would have to be allowed time to undertake it, implies something which could not be contemplated. In actual fact, a diesel locomotive does require a regular system of maintenance, but there is nothing very formidable about it, and in any case it is high time that locomotives in general received regular maintenance. A certain amount of skilled maintenance is also necessary, but surely skilled maintenance, as such, is not entirely foreign to steel works.

As for time being required to undertake the necessary maintenance, it has, in fact, been stated on good authority on numerous occasions that the diesel locomotive has as high a service factor as any other type; 24 hrs. a day 6 days a week is quite commonplace, and even refuelling need be undertaken only when the locomotive is receiving its routine maintenance on the seventh day.

Yours faithfully,
JOHN ALCOCK,
M.A., M.I.MECH.E., M.I.LOCO.E.

A Museum of Railway History

"Thurstaston," 22, Heatherfield Road,
Marsh, Huddersfield. June 10

TO THE EDITOR OF THE RAILWAY GAZETTE

SIR,—Your correspondent concerned about the future of York Railway Museum raises a point which I made subject of a letter in *The Yorkshire Post* for December 31 last year. I am interested in railway traditions and history, because I believe them to be a real contribution to our national culture, not only scientific, but æsthetic.

The ideal solution to the storage problem for preserved locomotives is on station platforms in districts wherein the particular engine (or type) has associations. There is a certain tidiness about the centralised collection, but it greatly limits the numbers of people who can enjoy the contents.

Personally I am concerned about the prospects of many delightful little single-track branch lines and light railways. Together with some stretches of obsolete canal they have an intense, if little known, æsthetic appeal, and merit, in a few selected examples, the attention of the National Trust.

Yours faithfully,
WILLIAM B. STOCKS

The Scottish Railway Network

20, Watery Lane, Merton Park,
London, S.W. 20. June 6

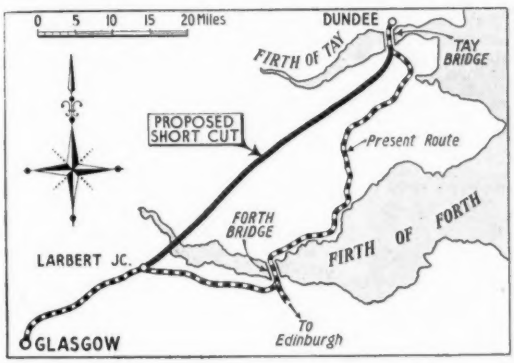
TO THE EDITOR OF THE RAILWAY GAZETTE

SIR,—I wish to deal with sundry points in your review of my new book, "The Scottish Railway Network," in your January 31 issue. This was written to develop further an entirely new subject—railway network principles. It would be quite possible for anyone to work out another scheme based on the same unit section that I employ, or on some other unit; in either case it would be a general treatment of the network such as we have never had before, and the results should be in advance of anything which could be secured by any casually considered programme of railway improvements.

There is nothing against the limited working out of hour sections, mainly confined to the existing lines, which you suggest, except that the advantages would be very limited, and there would arise a demand for a more broadly conceived plan. Cost estimates in post-war conditions are very difficult, but when you cavil at the 4-mile tunnel called for in Glen Dye (Forfar-Alford hour section), I can match this with a 5-mile tunnel on a very similarly situated line, the now-completed Oslo to Stavanger railway.

You say I should have put forward some limited proposition in central Scotland. Very well, I shall try this out: I put forward the direct short cut, described in my book, from Larbert Junction to Tay Bridge, which would realise a Dundee to Glasgow distance of 68 miles, and with a fast running line should allow a run inside an hour, saving a whole hour over the present roundabout route through Kirkcaldy.

Some heavy works would be required, including a half-mile bridge, but no network theory is here involved—just a straightforward run. Now will the L.N.E.R. do anything with this proposition? Answer, No. Will I even be treated to lunch on



the strength of it? Again, answer, No. Then why put up this proposition at all? Because I can foresee—after a brief nationalisation "flop"—a return of the independent promoter to become again, as of old, the driving force in the railway world.

Yours faithfully,

J. F. POWNALL

Water Treatment Processes for Railways

Manor Hotel, Hindhead,
Surrey. June 10

TO THE EDITOR OF THE RAILWAY GAZETTE

SIR,—I attended the meeting of the Institution of Locomotive Engineers at which Mr. A. J. R. Walter presented his paper on "The Application of Base-Exchange Water Softeners to Railways," and I have read the letter from Mr. C. A. Stead published in your issue of May 2 and the reply of Mr. A. J. R. Walter thereto. In my view, the base-exchange process is definitely more suitable for railway water conditioning, as consideration of the process in relation to others will show.

Anyone interested in water treatment would have gathered from Mr. Walter's paper many of the reasons why base-exchange is suitable, and, indeed, successful on railway work, but he should also read "Modern Methods of Water Treatment" by A. J. R. Walter (*Proc.* Inst. Mech. Eng., 1945, vol. 153, p. 282) wherein the progress in design of lime-soda softeners over the last 10 years is described and an indication of its present field is given. At least it will be concluded that the author of both papers has had considerable experience in connection with all types of water-conditioning equipment including the most modern developments, and his opinion is therefore likely to be quite unbiased.

Mr. Stead states that "prospective users would be well advised to investigate both" processes. The papers referred to are an excellent preliminary, and if the final result gives Mr. Stead consolation, who shall begrudge him it?

Yours obediently,

S. B. JACKSON

Publications Received

The Consulting Engineer Year Book, 1947. London: Princes Press Limited, 147, Victoria Street, Westminster, S.W.1. 8¼ in. × 5¾ in. 211 pp. Price 15s.—This year book is intended as a complete reference to the careers of the various individuals who specialise as consulting engineers in every branch of engineering. An alphabetical list gives certain details of consulting engineers, and by means of various symbols the reader may tell at a glance in what branch of engineering any particular consulting engineer has specialised. A further section of the book is in the form of short reviews of civil, mechanical and electrical engineering, and shipbuilding which are intended to give the consulting engineer a picture of the work with which he is concerned. Among other features are a classified buyers' guide, and British standards for public works, mechanical engineering, and electrical engineering.

Steam-Driven Transport Vehicles. Coal Utilisation Joint Council and Solid Smokeless Fuels Federation: Joint Investigations Committee Report No. 1. London: 1, Grosvenor Place, S.W.1. 9 in. × 8 in. 31 pp. January, 1946. Price 2s.—It would be rash to suggest that, in view of the decline in their use since their peak year, 1927, steam-driven road transport vehicles will disappear completely from the roads of this country. But it is undeniable that the steam wagon met some very serious setbacks, dating from the implementation of the Salter Report of 1926; moreover, the strike in that year probably encouraged users to adopt a prime mover not dependent on coal or coke for fuel. Furthermore, the motor industry spent vast sums on research to develop the most promising ideas and designs. If only a fraction of these amounts could have been devoted to the exploration of new steam-driven vehicles, a considerable advance could have been made. Before the recent war, a novel steam vehicle, embodying a flash boiler and a triple-expansion condensing engine, was developed by Mr. Doble, in conjunction with the Sentinel Waggon Works (1936) Limited. The firm spent more than £50,000 on the experiment, which yielded valuable experience and enabled it to conclude that future development could be very rapid if a sufficient demand were forthcoming to justify the necessary arrangements for manufacture in quantity. The new model, working at about 1,500 lb. per sq. in., would be much lighter for a given power, and the adoption of condensing gear would enable much longer runs to be made without taking water. Coke fuel is envisaged, with paraffin for starting, but the substitution of oil for coke is a possibility which cannot be ignored.

Mechanical Engineering. Careers for Men and Women series, No. 18. Ministry of Labour & National Service. His Majesty's Stationery Office. 8¼ in. × 5¾ in. 71 pp. Paper covers. Price 3d.—As with other booklets in this series the information is set out in simple and concise form; separate sections deal with the main forms of mechanical engineering, and under each one, such matters as the qualifications required, training, and opportunities for employment are dealt with. The latter part of the book is devoted to ten appendices, showing the main branches of engineering, University courses in engineering, and the conditions of election to various engineering societies and institutions.

Mile by Mile on the L.N.E.R.: Kings Cross Edition. By S. N. Pike. Sheppertonon-Thames: Stuart N. Pike, Publisher. 8½ in. × 5½ in. 35 pp. Paper covers. Price 2s.—This booklet deals with the L.N.E.R. main line from Kings Cross to Edinburgh, and is the second of a series, the first of which appeared last year and dealt with the Southern Railway, Western Section. As in the first booklet, the journey is described by means of a number of maps, which show the railway route and its immediate vicinity, and in which physical features, such as streams, cuttings, and embankments are represented. The position of mileposts has been included, and a gradient profile appears alongside each map; there are also notes on features of railway and scenic interest encountered during the journey. A new inclusion is that of a number of charts in which the line is divided into short sections; the charts give the distance over each of these sections, express train running times, and average speeds which can be expected. A further column of the chart is provided for the passenger to enter running times made by his train.

Estadistica de les Ferrocarriles Argentinos (Statistics Relating to the Railways in Argentina). Buenos Aires: Instituto de Estudios Economicos del Transporte, 1946 (covering the period from July, 1944, to June, 1945). 10½ in. × 7 in. 90 pp. Tables and diagrams.—This useful reference volume gives in handy form the principal statistics relating to railways which total some 42,000 route-kilometres (26,000 route-miles) and form one of the most important transport systems of the South American continent. The introductory text contains much useful information in amplification of the tables, and indicates some of the technical improvements effected in recent years, the influence of general economic conditions on the flow of traffic, and other relevant particulars.

Calendar of Events for Tourists.—An addition to the large range of tourist literature issued by the British Travel Association is a comprehensive booklet, small enough to fit into a waistcoat pocket, giving the principal events in Great Britain and Northern Ireland for the current year. This booklet, which contains also many useful notes for the guidance of visitors, has a first-print order of 280,000 copies, of which 180,000 will be in English and 50,000 each in French and Spanish. The booklet caters for every taste, giving dates of concerts, conferences, horticultural shows, exhibitions, sheep-dog trials, etc., as well as the principal sporting events of 1947. A concluding section provides notes designed to assist overseas visitors in observing the many regulations now in force.

The Scrap Heap

Want to Travel "First"

A resolution calling for first-class travel "for all civilian grades of the officer class" of Civil Servants was carried at the Conference of the Institution of Professional Civil Servants in London.

* * *

Long-Term Loan

"Returned with thanks and many apologies after 10 years," said a note accompanying a G.W.R. towel which had been washed and left in a compartment.—*From the "Evening Standard."*

* * *

Railway Honours

	G.W.R.	L.M.S.R.	L.N.E.R.	Southern	L.P.T.B.
C.B.E.	1	—	—	—	—
O.B.E.	—	1	—	—	—
M.B.E.	—	2	1	3	1
B.E.M.	1	4	5	4	3

* * *

"Blackmail"

Lord Addison: I do behove noble lords to think of their machine majority. It is a very dangerous thing. I do hope, in all sincerity, they will be very frugal with the use of their machine majority.

The Marquess of Salisbury: This House has always tried to improve Bills, and has not taken a party view during the past two years. If it has made amendments in the Transport Bill, it was to make it more workable. What of the machine majority in the House of Commons? To say we are prohibited from taking any action, which we believe to be our constitutional duty, for fear of any results that may accrue, is a form of blackmail.—*During the debate in the House of Lords on the Transport Bill.*

* * *

"Lost" his Regulator

Recently a locomotive drawing a night freight train failed, the connection between the regulator lever and the dome having become faulty and the regulator consequently useless.

The driver made his way to a nearby signal box, called up the local control, and said he would require a fresh engine. The controller inquired the nature of the failure, and the driver said: "I've lost my regulator," a phrase seldom heard outside locomotive circles.

There was a pause. "So you've lost your regulator, have you, driver?"

"That's right."

"Well," said the controller, "there's not much about just now. Will you take your lamp and have a look round for it?"

* * *

Private Property

Slaves own no property, "for a slave can have nothing of his own," is a dictum of ancient Roman and Greek law. Private property was the mark of the freeman in the ancient world, which was able, by the test of its contemporary society, to distinguish between slavery and freedom. The advocates of totalitarianism in the United States as well as in Russia of our time seem unable or unwilling to make this distinction.

They must of necessity presume that all men are worthy of slavery. The university professors, the bureaucrats, and the Communist agents, who are working for government ownership of transportation and communication in this country (from which government ownership of all else would follow), appear to take it for granted that all Americans have not sufficient reason to govern even themselves, but only to do what they are bidden by those specially prepared in the universities and the civil services to take over the direction of the whole society.

The return to slavery was foretold some forty years ago by Hilaire Belloc in "The Servile State." In the 1900s it seemed a mad forecast, but the man knew the logistics of the economy of the western world.

Some men of power, perhaps sensing that he might be a true prophet, hardly surmised that the rich would personally become the slaves. But now we see that this can happen if the bureaucrats should be empowered to hang their hats in the offices of privately-owned corporations.—*From "The Argonaut," San Francisco.*

* * *

The Lion's Share

There are no two sides, no opposing forces, in properly conducted industry; it is true that a levy of the profit is payable to the money factor, but the amount of this depends on the prosperity of the industry, and by far the larger share of the rewards of team work are taken in wages and remuneration, with the one exception of the lion's share which is levied not only on profit but wages and remuneration by Government, which, if it would only release industry from its trammels, would find its share even larger.—*Mr. R. H. Roberts at the annual general meeting of Super Oil Seals & Gaskets Limited.*

* * *

100 YEARS AGO

From The Railway Times, *June* 19, 1847

CEYLON RAILWAY COMPANY.—At a numerously attended Meeting of the shareholders, held this day, the following resolutions were carried unanimously:—

1st. That the report of the Directors be received, adopted, printed, and circulated amongst the proprietary.

2nd. That this Meeting highly approves of the course pursued by the Directors in reducing the shares from £50 to £15.

3rd. That the cordial thanks of this Meeting be given to the Directors for their able and efficient services in behalf of the Company.

4th. That the thanks of this Meeting be given to the Secretary, Mr. D. I. Noad, for his uniform attention to the interests of the proprietary.

D. I. NOAD, Secretary.

8, Broad-street-buildings, June 18, 1847.

* * *

Civil Service Hours

The Civil Service working week is temporarily to remain at its present level of 45½ hours. The Government adheres to the principal of restoration of pre-war hours and leave embodied in the undertaking given to the Civil Service in 1942, but to do this now would increase the Civil Service's demands on the country's limited manpower. The Government feels that it cannot escape the obligation to avoid such a situation, and has decided that the course to take in the national interest is to postpone the date for the full implementation of the pledge until the end of 1949.

Among those Civil servants who will be called on to continue working beyond their contract hours are many not entitled to overtime pay. To those in this class whose salary does not exceed £1,200 a year an extra-duty allowance will be paid as from July 1. This will be at the rate of 3 per cent. of salary for staff whose pre-war weekly hours were 44, and 8 per cent. for those whose hours were 42.

Student Railway-Builders

Among the university students from numerous countries who will assist in building a new railway, 130 miles long, in Jugoslavia between Samac and Sarajevo, will be a party of 200 from Great Britain. They will leave Newhaven this month, paying their own travel expenses, and will work a six-hour day assisting in the construction of the line, which includes 37 stations, 1,400 yd. of tunnel, and 5 bridges with a total span of 1,650 yd. The scheme has been sponsored by the British-Jugoslav Association and the National Union of Students. Educational, cultural, and physical training activities have been arranged for off-duty hours. Voluntary student labour has been used already in Jugoslavia for building a new standard gauge line between Brcko and Banovici, which has been called in consequence "The Railway of Youth."

* * *

State Air Lines Go to Ground

British State Air Lines are spreading their wings. Not so much in the air as on the ground. They now occupy 14 office buildings in the London area. They have recently purchased the Simmonds building on the Great West Road which covers eight and a half acres. Country houses are also among their recent purchases. They are Bangors House, near Langley, five acres; Woolley Hall, White Waltham, 40 acres; Larchmoor, Stoke Poges, 31 acres; and the Sunningdale golf course Dormy House.

The State Air Lines will this year lose between six and eight million pounds. Pilots are complaining about their pay and pensions. Senior captains are dissatisfied with their present salaries. Under free enterprise the air lines ran well. They made money and the personnel was satisfield.—"*Cross Bencher*" *in the "Sunday Express."*

* * *

What a Shame!

The Whitehaven Junction Railway, under the able management of Mr. Blenkinsop, Resident Engineer, has the credit of care, system, and regularity; but the gentleman in question has not yet learned the pleasing art of pleasing everybody, and our readers will agree with us that he would be a rare specimen of humanity if he could. We shall here append a short account of a case which justifies this assertion. A few mornings ago an elderly matron, who had forwarded her luggage the night preceding, with the intention of starting by the earliest morning train, presented herself at the booking-office, about five minutes after its departure, to obtain a ticket for the third class, when Mr. Hayton, the collector, informed her that it was gone. "Gan! what, gan off?" responded the matron, with an air of surprise, mingled with indignation, "that's pretty wark for sure! Why, thoos niver lett train gan off widout me, after I've been liggin on't sofa aw't neet, to gan along wid it, has ta?" Mr. Hayton: "We are obliged to start at the time appointed." "Weel, that is bonnie wark!" What that's nea way a dein business!" Mr. Hayton here tendered his sympathies to the disappointed matron, which she indignantly rejected, saying, "Cum, I want nea bother aboot it; a sul just gan off tut Directors, and 'plain to them," adding, "What! thoo knowd weel eneuf that I wur cummin, and thoo'd nea business ta let t' carriages off." So saying, she left the station, protesting against the conceived wrong.—*Whitehaven Herald. From "The Railway Times,"* May 15, 1847.

OVERSEAS RAILWAY AFFAIRS

(From our correspondents)

CANADA

P.G.E. Road Services

The Province of British Columbia will provide the Pacific Great Eastern Railway with $200,000 to buy buses and lorries for operating a passenger and freight service over the John Hart Highway into the Peace River district. It is planned to acquire 50 buses, three 7-seat passenger cars, four 10-ton lorries and trailers, and four lighter lorries.

When the new $6,000,000 highway is open from the railhead of the Pacific Great Eastern next Spring, it will be possible to make the 747-mile trip from Dawson Creek to Vancouver, by way of Squamish, in 47 hr. The bus service will provide three trips weekly between Dawson Creek and Quesnel, connecting with P.G.E. trains.

C.N.R. Chairman on Costs Burden

In an address to the annual meeting of the Sherbrooke Chamber of Commerce, Mr. R. C. Vaughan, Chairman & President of the C.N.R., declared that prudent management on the railways was doing its part to apply sound practices to all phases of operation, but that a point had been reached beyond which the ingenuity and wit of management could not go. "Not only must every item of expense be pared to the bone," said Mr. Vaughan, "but many things that are desirable—but not absolutely necessary to efficient operation —have to be left undone, often to the general detriment of modernisation. What is even worse, the effect upon the workers' morale is crushing. Without good morale, you cannot have good railways, and without good railways this country cannot prosper."

Even though their volume of traffic was considerably greater in 1946 than in 1939, said Mr. Vaughan, and although they taxed every ingenuity to effect economies, and wound up the year with a net railway operating income of $31,500,000, they could not at existing rates, and in the face of uncontrollable price factors, make enough money to pay their fixed charges of $44,680,000 for interest on securities held by the public and interest due on Government loans. The railways were the great geographic unifying factor in Canada. He would like to feel that not only the Canadian National, but all the railways of the country would be given a chance to perform the great role—strategic, economic, and social—in the life of the nation for which they were conceived.

UNITED STATES

Oldest Receivership Ended

On March 4 this year, the Pittsburg, Shawmut & Northern Railroad and its various properties were sold to a Pennsylvania coal operator for $1,505,000. The railway ran from a junction with the Buffalo and Rochester lines of the Delaware, Lackawanna & Western, and Erie, at Wayland, to a connection at Dellwood with the Pennsylvania route to Pittsburgh. Two short branches connected with eastward and westward lines of the Erie Railroad. The railway properties of the company were placed in the hands of receivers on August 1, 1905, and the receivership continued until the summer of 1946, when reorganisation proceedings were begun. Eventually abadonment of the line was approved.

The purchaser undertook as a condition of sale to operate or cause to have operated certain short sections of main line and sidings. It is possible that these sections will be sold to other railways. The new owner had intended to operate the whole system for a trial period of one year if his original offer of $1,200,000 had been accepted. As it is, it is expected that apart from the sections mentioned above, the permanent way and equipment will be sold for scrap.

To Combat Risk of Rear Collision

The Atlantic Coast Line recently has fitted all its passenger trains with an oscillating tail searchlight to assist in preventing rear collisions. The last car of each train has a portably-mounted Mars light, which can be switched on by the trainman or guard, and throws a brilliant red oscillating figure-of-eight beam down the track when a stop is made or when there is danger of overtaking by a following train. This light has been introduced by the Mars Signal Light Company, of Chicago and Trenton, N.J., and in appearance resembles a small searchlight about 12 in. or 15 in. in diameter.

EIRE

Extended Use of Oil Fuel

A total of 34 engines has been converted already to oil, and conversions are proceeding at the rate of three a week. Most of the oil-burning locomotives now in use are of the heavy goods type, including two 4-6-0s of class "400," and are hauling about a quarter of the merchandise traffic on the C.I.E.

Some difficulty has been experienced in obtaining materials for building large storage tanks for oil at the various depots, and this has restricted the use of the oil-burning engines to some extent. To overcome this handicap, a number of mobile auxiliary tanks has been constructed. These tanks have a capacity of approximately 1,200 gal., and are hauled behind the tender, thus increasing the radius of operation. The mobile tanks are equipped with a pump, driven from an axle of the vehicle on which they are carried, and this tops up the oil tank on the tender as the oil is consumed by the locomotive.

FRANCE

Radio Telephones for Marshalling Yards

Radio telephones have been tried successfully recently in the extensive marshalling yard at Trappes on the Western Region line beyond Versailles. They are now in regular use on the three shunting locomotives at the yard, and portable sets are being tested for use by men on foot.

A 25-watt short-wave set in a cabin at the hump is in one-way communication with receiving sets on the three engines. The fixed station, taking current from the lighting circuit, is connected to a rod aerial on a lighting standard nearly 100 ft. high. The receiving sets in the cab of the shunting engines operate two loudspeakers, one on the driver's left, and the other on the fireman's right. A 24-volt accumulator supplies low-tension current direct, and high-tension through a rotary converter. A 600-watt turbo-generator is used to charge the battery.

The frequency is 166 Mc/s., and the aerial is fixed on the roof of the cab. In view of the good results obtained with this equipment, it is intended to equip several other large marshalling yards with radio, but with two-way communication.

Portable Equipment

The portable transmitter-receivers are based on apparatus developed for use in gliders, and also operate on 166 Mc/s. A small loudspeaker serves also as a microphone. The aerial is of the whip type, about 20 in. long. Two cells, one heating the valve filaments and the other for the high-tension supply, are carried in a small bag. The whole equipment weighs slightly more than 1 kg., and the two parts, slung over the shoulder by a strap, are attached to a waist belt. The range of the set is 3 to 4 km. It enables a man at any part of the yard to transmit information to the central cabin, and to receive orders direct, thus greatly speeding up operations.

Loan for S.N.C.F.

The French National Railways (S.N.C.F.) have placed on the market a bond issue totalling fr. 10,000 million, the first of a series intended to finance reconstruction costs. The bonds are in denominations of fr. 5,000 and fr. 50,000, bearing interest at 4 per cent., payable on July 1 each year. Further financial aid will be received from the loan of $250,000,000 granted to France by the International Bank for Reconstruction & Development. The amount of this loan allocated to the railways, according to M. Robert Schuman, Minister of Finance, is $7,500,000. This will be used to pay for rolling stock and other equipment purchased in America.

SOUTH AFRICA

Hex River Tunnel

The Minister of Transport recently detonated dynamite charges at the base of the Matroosberg in the Hex River Mountains, to begin the driving of the eight-mile tunnel which will replace the rail route over the pass. The whole scheme, which includes three other tunnels, is estimated to cost £1,078,500, and will take five years to complete (see also *The Railway Gazette* of August 9, 1946).

Road Transport Act

Mr. Sturrock visited Worcester both to launch officially the work on the Hex River Tunnel, and to address the conference of the Cape Federation of Industries. He told the conference that the railway administration was coping with record traffic in spite of its impaired resources. The suggestion that congestion of goods at ports and inland centres would be relieved by doing away with the Road Transport Act was impracticable, unless exceptions were made in an ordered and controlled manner.

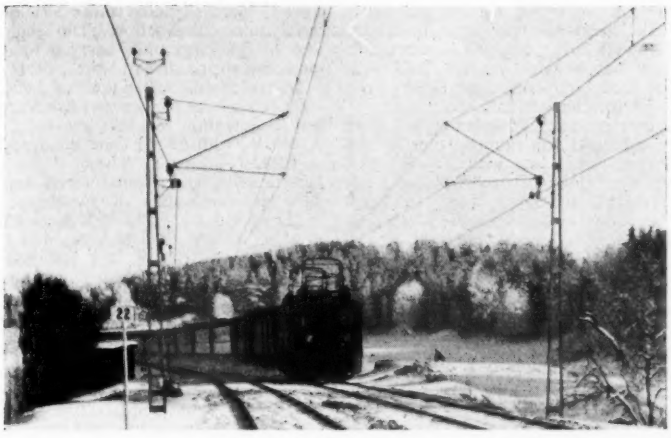
The Minister said he was prepared to exercise emergency powers in favour of industrialists who were willing to transport bulk consignments such as timber, coal, sugar cane, maize, wheat, or other cereals. It was necessary for the country to appreciate that in spite of shortages of material, the railways today were accomplishing miracles of transport. More goods than ever were being moved, although, owing to world shortages of steel and other commodities, it virtually had been impossible to improve on their pre-war resources.

Electric Traction Progress in Sweden

Railways of Sweden, Norway, and adjacent countries, showing electrified sections

Electric Traction Progress in Sweden

Some notes on a recent visit



ALTHOUGH Sweden was isolated during the war, there are no signs that the country suffered unduly. Railway construction and maintenance may have been impeded to some extent, mainly through lack of coal, but new types of rolling stock have been developed, and there are no indications of dilapidation from lack of maintenance. The reconstruction of the Roslagsbanan and the Lidingobanan are examples of progress.

The State owns and operates the majority of the railways in Sweden, but there is still a number of privately-owned railways, some electrified. The State investment consists of:—

6,910 miles of 4 ft. 8½ in. gauge
278 miles 1·067 metre gauge
461 miles 0·891 metre gauge

Electric traction was commenced in 1915 and subsequently was developed intensively, particularly during the period 1933-1938, when 2,500 km. were brought into operation. This represented an average of 500 km. or 300 miles of construction a year.

By 1939 about 3,750 km. (2,250 miles) were operated by electric traction. These were the lines carrying the heaviest traffic and there did not seem then any financial justification for further electrification of lines carrying lighter traffic. The outbreak of war in 1939 restricted coal supplies, and a large increase in traffic made further electrification a matter of urgency to make use of water power. In 1945 there was a total of 4,660 km. (2,796 route-miles = 4,986 single-track miles) electrified, carrying 84 per cent. of the total traffic on the State Railways. The total electrified mileage of all Swedish Railways is approximately 3,419.

Costs

In 1932 the energy consumption was 300 million kW.-hr., which increased by 1945 to over 900 millions, costing approximately Kr. 17 million (£1·17 millions). This works out roughly at 0·31d. per unit, and is the cost delivered at the substations. The cost of the unit sent out from the State generating stations as three-phase supply was said to be 1·49 Ore or 0·245d. The average watt-hour consumption per ton mile is 41.

It is estimated that electrification cost altogether Kr. 365 million (£25 millions). About 35 per cent. of the capital was expended on rolling stock and 65 per cent. on stationary equipment. Alterations to way and works, communications, and lighting accounted for 20 per cent. of the 65 per cent. Apart from avoiding a wartime transport crisis, electrification saved the railways during the years 1939-43 some Kr. 475 million (£32·5 millions) on the basis of cost of operation by electricity as compared with the estimated cost of operating the same traffic by steam. Coal now costs Kr. 65 (89s. 7d.) a ton, which is roughly three times pre-war cost.

The present policy is to complete the electrification of all the main lines. On certain of the branch lines there is now a number of diesel railcars of 160 h.p. with mechanical transmission, and the question of extending the working of the light traffic lines by diesel-electric engines is being investigated.

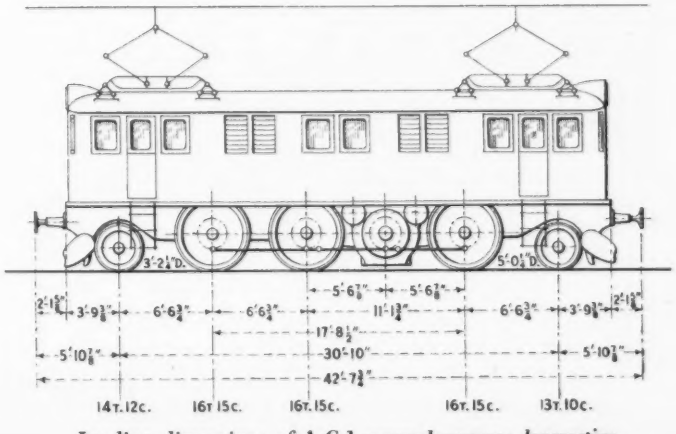
The long route distances, with comparatively light traffic, led to the adoption of the system of electrification at 16,000 volts a.c., single phase. The power supply for the early stages of electrification was generated by water power at Porjus at 16⅔ cycles, single-phase, which was then considered to be an economical system, but it was realised subsequently that, with a national grid 3-phase transmission system throughout the country, two different systems of generation and transmission would not be in the best national interest and, moreover, frequency conversion was actually more economical in the south of Sweden. With motor generators, line voltage regulation was improved and longer substation spacing became possible. These factors decided the railways to accept electrical energy from the State 3-phase power supply system and convert it to single phase for feeding the contact lines.

In general then, the railways purchase 3-phase power from the State, but in the north, at Porjus, some is generated by the railways as single-phase. Accordingly, there are 33 converter substations and 12 transformer substations on the railway system located about 60 km. (36 miles) apart. The former contain 28 fixed converting units and 62 mobile units, all designed for receiving 3-phase 50-cycle energy, and converting it to 16,000 V. single-phase 16⅔ cycles. The 12 transformer substations are supplied direct from Porjus with single-phase 16⅔ cycles, and there are 15 units, making a grand total for the complete traction system of 105 units.

Mobile Substations

Comment should be made on the mobile substations, one of which was inspected at Haggvik, fairly close to Stockholm. This substation contains four 2,400 kVA. units, each unit accommodated on two coupled wagons, one for the rotary machines and the other for the transformer and switchgear. All vehicles were stabled on railway tracks in a substantial and permanent building, although all the electrical equipment was housed in steel casings which appeared to be weatherproof. It was stated that this arrangement was cheaper; it dispensed with cranes and elaborate foundations; it assisted maintenance, and was a good insurance against breakdown in so far as complete units could be changed rapidly, the defective unit being taken to a central depot for repair. Nevertheless, on appearance, the arrangement seemed costly; the vehicles alone must have added to the cost. It is a fact, too, that one set had been running at Haggvik without disturbance for nine years.

The overhead contact line is of copper, 50 sq. mm., suspended from a 80-sq. mm. copper catenary by means of droppers; thus there is a total of 130 sq. mm. of copper per single main running line. The overhead line generally is supported by light diagonal struts fixed to steel masts embedded in concrete foundations. The lines are maintained at constant tension by



Leading dimensions of 1-C-1 *general-purpose locomotive*

means of weights fixed at the end of sections.

There is also a return line carried on the track structures connected at intervals of about 6 km. to booster transformers. This system was installed to suppress induction and reduce interference to communications. The running rails serve as return conductors for traction current in short sections, and the overhead line also is divided into similar short sections, the gaps between the sections being connected through the booster transformers.

Practically the whole of the electric services are worked by locomotives, of which there are 578. The average annual mileage per electric locomotive is about 72,000, and some of the standard "D" type attain 114,000 miles. The State Railways also operate 782 steam locomotives.

Nearly 60 per cent. of the electric locomotives are of standard mixed-traffic type ("D") 1C1 2,000 h.p. and this type has given excellent service. Up to 1938 there were two other types only—one for shunting and local freight trains of 700 h.p. ("Ub") and the other for mixed traffic on branch lines of 1,200 h.p. ("Ud"). Since 1938 other types have been introduced, designed for heavier loads and higher speeds.

Maximum Loads

The maximum loads hauled on the State Railways are 600-ton passenger trains and 900-ton goods trains; the latter are limited because of the lengths of sidings. The exceptional loads are in Northern Sweden, where iron-ore trains are made up to 2,000 tons loaded in short wagons. These are worked by 1CC1 locomotives of 2,900 h.p. In view of the nature of the country it is surprising that the gradients are not heavy; the maximum is 1 in 100 in South Sweden, and 1 in 62·5 in the North.

Engine crews consist of two men only on all express and freight trains, and all other trains on runs of over 80 km. (48 miles) or over 6 hours in time. The men's rosters are arranged so that 48 per cent. of their time is on one-man operation.

Electric engines run 180,000 miles between major overhauls and there is an intermediate axle examination with light repairs. A standard main overhaul occupies eight days. Electric engines under or awaiting repair were said to be 10 per cent. of the total on the line. The comparative figure for the steam engines is 28 per cent.

The 1-Do-1 type locomotive is the latest standard locomotive for heavy express trains. It is of 3,500 h.p., with a weight of 102 tons, with 70 tons adhesive; normal load 600 tons; top speed 135 km. (80 m.) p.h. Features of the engine are:—

A wheel slip indicator consisting of current transformers in opposition in each motor circuit, so that normally no secondary current flows. Slip on any of the wheels produces out of balance, which is shown immediately on the instrument, and the drive reduces the power accordingly.

Braking is pneumatic on the German Hildehand system with 10 atm. in the engine reservoir. There are two ratios for brake power on the train, controlled by speedometers on each coach. Over 35 m.p.h. the brake power is 175 per cent. with 8 atm., and below 35 m.p.h. the brake power is 70 per cent. The arrangement of variable brake power is applied only to cars for express trains.

The Hagalund Engine and Carriage Shed is claimed to be the largest locomotive and carriage depot in Sweden. There are 14 tracks inside the shed, each with accommodation for three engines and served with an electrically-driven traverser, with a connection to one road only for exit and entry to the shed. Here all inspection and minor repairs and oiling are carried out on about 65 engines daily. Alongside the inspection shed there are an additional three lines in a workshop equipped for heavier repairs, and with machine tools and cranes for lifting, and a drop pit for changing axles.

The carriage shed contains eight tracks and is equipped for running repairs and servicing to carriages, with cranes, pits, and machine tools. There is also a laundry attached to the depot, chiefly for work in connection with the railway sleeping and dining car services.

Manufacturing and Supply Undertakings

The following notes refer to manufacturing and power supply undertakings, and other transport systems, which were visited during the tour:—

Nydqvist & Holm Locomotive Works (Nohab).—These works at Trollhattan employ about 1,200 hands in the manufacture of water-power plant, locomotives, carriage underframes, bogies and wagons, and steam hammers. The work being turned out appeared to be of excellent quality. For many years underframes, bogies and wagons have been constructed by welding without heat treatment of any kind and there had been no failures. They do not use rolled sections for this work.

There was a 4-6-0 express passenger engine just ready to be delivered to Holland of probably 25,000-30,000 lb. tractive effort. The main frames of the locomotives resembled American practice; but they were machine cut from heavy plate instead of being cast.

Royal Water Power Board, Trollhattan.—Two hydro-electric power stations were inspected. One comprises fourteen 10,000-kVA. generators, the original four being 40 years old. These machines are driven by Francis turbines working on 100-ft. head.

The other station has only just been completed, with two 50,000 kVA. generators and space for a third generator. This station is installed in a solid rock excavation and fed by water by-passed from the same canal as the older station. It also works on 100-ft. head. Excepting the sluices and screens, the complete installation is underground. The turbines work on a syphonic principle and are of the propeller type. A.S.E.A. built the 50,000-kVA. alternators, and the turbines were built one by N.O.H.A.B. and the other by Boving. This station is most impressive.

A.S.E.A.-Vasteras.—These large works manufacture industrial and traction motors of all sizes, control gear, marine winches, large alternators for water wheels, and complete electric coaches. Traction motors (a.c. single-phase) are being rewound in the same frame to increase their capacity from 750 h.p. to 1,150 h.p. This was said to be possible because of more scientific design. Motors are being built for Bo-Bo locomotives as follow:—

5,600 lb., 440 h.p. = 12·7 lb./h.p. a.c. single-phase.
2,530 lb., 225 h.p. = 11·2 lb./h.p. d.c., insulated for 1,500 V.
Commutator peripheral speed, 45 m./sec. = 147 ft./sec.

Two 4-car multiple-unit trains were under construction, each equipped with four 300-h.p. motors, speed 70 m.p.h., total weight 135 tons; all steel construction.

Supervisory control gear was on exhibition. This works on the Ericsson telephone system and the relays were very similar in appearance to the standard British Post Office relays used for the same purpose; 370 units can be operated on one pair of conductors—17 of these simultaneously.

Many vertical shaft water-wheel alternators of large capacity (some 50,000 kVA.) were under construction. The single bearings of the large units carry a total load, including thrust due to water, of 122 tons.

Several mobile substations of 3,500 kVA. were being built for the Swedish State Railways. Selenium rectifiers are being made, 7-10 kW., with 65 per cent. efficiency.

A.S.E.A.-Ludvika.—These shops manufacture switchgear, transformers and rectifiers. Various units of switchgear being made were 3·3 kV., 80 M.V.A.; 6 kV., 160 M.V.A.; 11 kV., 200 M.V.A.; and 22 kV., 250 M.V.A. There is a test house for testing switchgear to destruction, and H.V. equipment for one million volts.

A.S.E.A. makes air-cooled rectifiers, but is not yet prepared to produce an entirely pumpless tank. All units produced are equipped with "fine" vacuum pumps. The largest units being made were: 1,500 amp., 300 V.; and 1,300 amp., 600 V. There was one water-cooled unit, 6,000 amp., 600 V., with 18 anodes. Selenium rectifiers are used for excitation.

Transport Companies

The Roslagsbanan.—This is a transport company owning and operating trains and road buses over a wide area around Stockholm. Electric traction over about 100 km. (60 miles) of 0·891 mm. gauge line was introduced in 1896 on the 600-V. d.c. overhead line system, the equipment being supplied by Mather & Platt. The system recently has been modernised on 1,500 V. d.c. Although the company was willing to adopt the State system of 16,000 V. a.c., this could not be arranged because the restricted space in the narrow-gauge bogies was insufficient for accommodation of the traction motors.

A remarkable feature of this railway is that trains run through the streets, fed with current from the 1,500-V. overhead line. This line crosses tramways 600-V. lines at the same level at various points, coasting over neutral sections. (In Melbourne there are similar conditions, but arrangements exist for power supply over the crossing at either 1,500 V. or 600 V.

There are seven substations on the system, each equipped with one 1,500-kW. rectifier, four of which are air-cooled and three water-cooled. All are provided with "fine" vacuum pumps, and each set is installed in a bank of three tanks.

The latest 640-h.p. motor coaches are used also as locomotives. They are fitted with high-speed circuit breakers for fault protection, and a differential relay consisting of two parts, one worked by incoming current and the other by outgoing.

Heating is taken from a 1,500-V. bus line, the heaters in the motor coaches and trailers being arranged in series. Lighting is from motor generators mounted on Silentblocs. The driving ends are somewhat novel. They give the driver a small cosy compartment, and when not in use they can be locked up.

During the transition from 600 V. to 1,500 V., several equipments were arranged to run on both voltages. This was done without difficulty by insulating all the equipment for 1,500 V. and fitting a changeover switch which is automatic in operation and alters the motor combinations to suit either voltage. The motor generator will run on 1,500 V. or 600 V.

Lidingo Railway.—This is owned by A.G.A. It is an electric railway *cum*

Electric Traction Progress in Sweden

The latest electric locomotive design for heavy express traffic on the Swedish State Railways, a 1-Do-1 of Class "F"

Goods train hauled by class "D" 1-C-1 locomotive, the former standard design for heavy passenger and goods traffic on the State Railways

tramway of about 8 miles, some of which runs through the country and some through the streets of Stockholm, with a 600-V. d.c. overhead line. Modernisation has been completed only recently, with 3 rectifier substations and 16 railcars, 10 of which are motors.

High-Speed Braking

The motor coaches weigh 22 tons, trailers 14 tons, and the motor coaches are equipped with 4 × 68 kW. motors. The motor coaches alone, which are worked singly for some services, can be accelerated at 2·4 m/h/s and braked at 4 m/h/s with magnetic brakes on all cars—one to each set of two axles—4½ tons for each set of two axles. In addition, there are air brakes working on friction discs, rheostatic braking on the motor coaches, and solenoid brakes on the trailers. This elaborate and high rate of braking was required for street working.

Automatic couplings are fitted, which include the electric and air train lines. This is a German design and rather clumsy. There are pneumatically-operated remote-controlled doors, and a public address system.

In general, these cars are extraordinary. They have a good performance in ascending 1 in 25 grades, and can be stopped in their own length from fairly high speeds. It was rather difficult to appreciate the reason for the rather lavish design, apart from any publicity value there might prove to be.

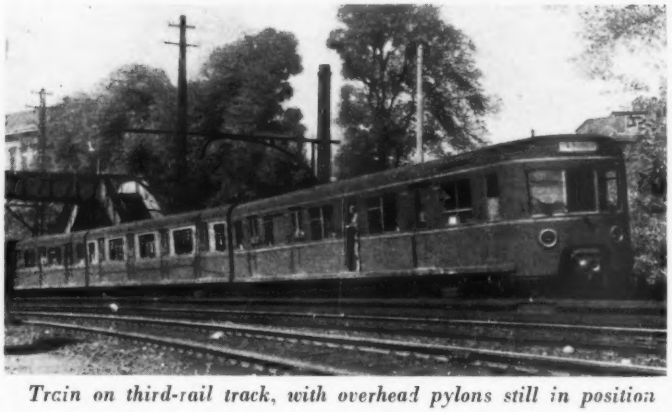
Stockholm Tramways.—These are to be rebuilt partly, with a certain amount of tunnel, and because of this it has been decided that any form of brake likely to produce dust is undesirable. Therefore, all axles on new stock are to be motored, and rheostatic braking is to be used.

Particulars of some types of electric locomotives of the Swedish State Railways are summarised below:—

1 Do 1	Weight 102 tons (70 tons adhesive); 3,500 h.p.; 135 km. (80 m.) p.h., with Westinghouse flexible drive. These engines are the latest type built for heavy express trains of 600 tons.
1 C C 1	Weight 120 tons, 2,900 h.p., for iron trains in the north of Sweden.
1 C 1	Weight 80 tons, 2,000 h.p. Original "standard" locomotive for mixed traffic—passenger trains (600 tons) and freight trains (900 tons), with maximum speeds of 60 and 45 m.p.h. respectively.
C	Weight 47 tons, 700 h.p., for shunting and local freight trains of 600 tons with maximum speed of 24 m.p.h.
Bo Bo	Battery shunting locomotive. Weight 60 tons, 1,000 h.p. The battery is 700 amp. for 10 hr., but future engines will have 700 amp. for 1 hr.
Bo Bo	Weight 49 tons, 1,200 h.p., for 400-ton passenger and 600-ton freight trains. Maximum speed 54 m.p.h. Nose-suspended motors.

The Hamburg Electric Suburban Railway

Conversion from overhead single-phase a.c. to third-rail d.c. traction was undertaken in 1940



Train on third-rail track, with overhead pylons still in position

HAMBURG possesses two distinct electric railway systems: the so-called "Underground" and the Reichsbahn-operated S-Bahn.

Originally operated by steam trains, it was decided in 1905 to electrify the line from Blankenese to Ohlsdorf. The system chosen was 6,000-V. 25-cycle single-phase, using an overhead conductor wire. The severe winter of 1906, and the opening of the new Hamburg Central Station, delayed the inauguration of electric traction. When at last a section of the line was opened, in October, 1907, trouble was experienced with the generating equipment in the newly-built (railway-owned) power station at Altona, and this necessitated suspension of the electric service for some time.

In January, 1908, the whole line was ready. Steam trains were then withdrawn, very cautiously, in four stages, so that the change-over to electric traction was only gradual. Rolling stock consisted of 2-car sets of one motored and one trailer car. Four of these sets made up a train. The cars were of the compartment type.

After the 1914-18 war, the electric equipment on the cars was renewed, and in 1924 electric traction was extended to Poppenbüttel, the northern terminus. This brought the total of electrified line to just over 20 route-miles. In 1939 the original rolling stock was still running after over 30 years of service, and it was then decided to replace the rather antiquated carriages by new trains, but to retain the overhead conductor. Operation had been satisfactory with the a.c. equipment, working an average headway of 5 min., and it was not intended to convert to third rail.

Proposal for Underground Sections

The State, however, was making ambitious plans for a bigger and better Hamburg, and these plans included putting several sections of the railway underground. So as to be able to use tunnels of smaller section than would be possible with the existing overhead system, it was decided finally to convert the line to third-rail d.c. traction, simultaneously with the construction of the new rolling stock. Automatic block signalling was installed also, to permit a headway service of 2 min. The post-war, 1946, timetable, however, showed a 10-min. interval service, and that only on the inner section between Altona and Ohlsdorf.

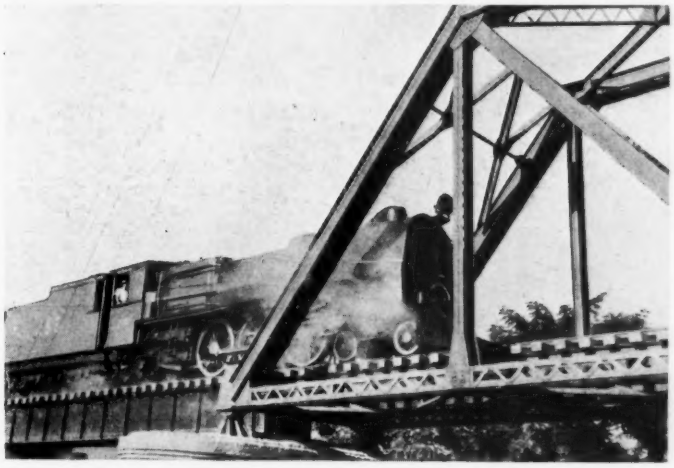
There were several alterations to track layout and improvements to stations before the new system was introduced in 1940. The new trains are composed of two 3-car sets each, and weigh 244 tons 6 cwt. They can accelerate to their maximum speed of 50 m.p.h. in 70 sec. The centre car in each set is a second class trailer. Seven new rectifier substations were built, and supply the traction current at 1,200 V. to the third rail.

ELECTRIFICATION PROPOSALS FOR CZECHOSLOVAKIA.—At a recent meeting of the Electrotechnical Association of Czechoslovakia in Prague, it was pointed out that out of the total route-mileage of the Czechoslovak Railways of 8,195 miles, a total of only 29·4 miles, in the suburbs of Prague, have been electrified so far. Traffic requirements call for electrification of the more important routes, particularly the 102-mile Prague—Ceska Trebova main line, with its 145-mile extension *via* Brno to Bratislava; and with the main line from Bratislava to Kosice. The whole distance between Prague and Kosice to be electrified according to these proposals would be 528 route-miles.

RELIEVING A SWISS MAIN LINE.—At the end of last year electric traction was introduced on the Aarau—Suhr—Zofingen, and Aarau-Suhr-Wettingen lines, which run practically parallel with the electrified main line of the Swiss Federal Railways between Olten and Zürich, and will relieve that line by taking over some of its secondary traffic. The total length of the sections concerned is just over 25 miles. At two places there are level crossings with local railways electrified at 750 volt d.c. Here the overhead wiring is so arranged that the sections at the crossings are insulated, and can be switched over from a nearby signal cabin to 15,000 V. a.c. or 750 V. d.c. The switches are coupled to the signal levers, so that they are worked automatically whenever a signal is lowered for a movement on either of the lines. As a result of electrification, it is possible to increase the service from 9 to 23 passenger trains a day in each direction. In spite of this improvement, only six electric locomotives are required to do the work previously performed by five steam engines.

Rebuilt Myitnge Bridge, Burma Railways

A description of the pre-war permanent bridges, wartime destruction and temporary replacement, and the rebuilt permanent structure



"YC" Pacific at head of special train breaking the tape to open the reconstructed bridge

ONE of the most notable events in the rehabilitation of the Burma Railways, necessary in the main because of the accurate bombing of the Allied air forces, was the re-opening on December 23, 1946, of the permanent bridge over the Myitnge River, nine miles south of Mandalay on the Rangoon-Mandalay main line. Where the railway crosses it, this river is nearly 700 ft. wide and has a maximum low-water depth of 17 ft. The bridge is, therefore, the most important between the Rangoon area and Mandalay, and was for this reason a priority target for our bombers when it was in Japanese hands.

To enable the railway to reach Mandalay nearly 60 years ago, the Myitnge was bridged by an imposing structure consisting of four main through truss spans, each 150 ft. in length, and two 40 ft. deck plate-girder spans, carried by piers consisting of twin cast-iron cylinders 9 ft. in dia. This bridge proved equal to all requirements until considerably heavier locomotives were placed in service during the early 1920's. It then had either to be strengthened or replaced by a new structure, and the Government of Burma decided in favour of the latter alternative. The reason for this decision was that the Rangoon-Mandalay trunk road, then under construction, had to cross the Myitnge, and it was considered advisable to convert the railway bridge for road traffic, and build an entirely new bridge for the railway.

The 1924 Railway Bridge

The site chosen for the second bridge was only 200 ft. downstream from the first. It had girders similar to, but heavier than, those of the old bridge, but the piers were of brickwork. The landward ones, Nos. 1 and 5, were founded on twin brick wells 14 ft. 6 in. dia. and sunk 55 ft. below water level; and the three central piers, Nos. 2, 3, and 4, were built on steel caissons 23 ft. by 14 ft. 6 in. by 25 ft. high, founded at depths between 59 and 66 ft.

This bridge was completed in 1924, and continued in service until the Japanese occupied Burma in 1942, when it fell into their hands. Time and again, it and the nearby road bridge were bombed and damaged by Allied bombers, each fresh attack taking place as soon as the enemy had repaired temporarily these vital links in his lines of communication; he also strengthened his local air defences to meet these attacks. Eventually, they drove him to abandon the much-damaged bridges and, instead, to build a temporary one two miles higher up the river.

The advancing Allied forces, returning to Burma in 1945, found the road bridge almost completely demolished, and the following visible damage to the railway bridge:—

(1) South abutment very badly damaged and requiring rebuilding.

(2) Piers 1, 3, and 4 appeared to be only superficially damaged.

(3) Pier No. 2 had been badly damaged by a direct bomb hit, but had been repaired by the Japanese.

(4) Pier No. 5, nothing visible above water level.

(5) North abutment demolished.

(6) All steelwork spans destroyed.

To effect a crossing of the river for operational purposes, military engineers constructed a temporary rail-*cum*-road bridge with Bailey bridging material, on the same alignment as the damaged railway bridge. They used as supports the existing piers 1, 2, 3, and 4, and spanned the damaged abutments with 60-ft. Bailey spans supported on Bailey cribs welded to bridge transoms. The 300-ft. gap over the demolished pier, No. 5, was closed with a triple-triple Bailey bridge span. (Described and illustrated on page 625 in our issue of December 22, 1944.) The bridge was used primarily for road traffic, the trunk road being diverted at its approaches on to the railway formation. Trains could not pass over the bridge, but it was possible to pull a few loaded wagons over it at a time by means of light petrol-driven locomotives or Jeeps.

Prior to the return of the civil railway administration to Burma, aerial photographs and military reconnaissance reports had revealed the extensive damage sustained by the railway bridge and the consequent necessity for obtaining new 150 ft. truss spans to replace the damaged ones. Fortunately, the curtailment of the scheme for doubling a portion of the Bengal & Assam Railway in Assam rendered surplus many of the bridge spans fabricated in India for that purpose, and no time was lost in acquiring some of the larger spans for Burma.

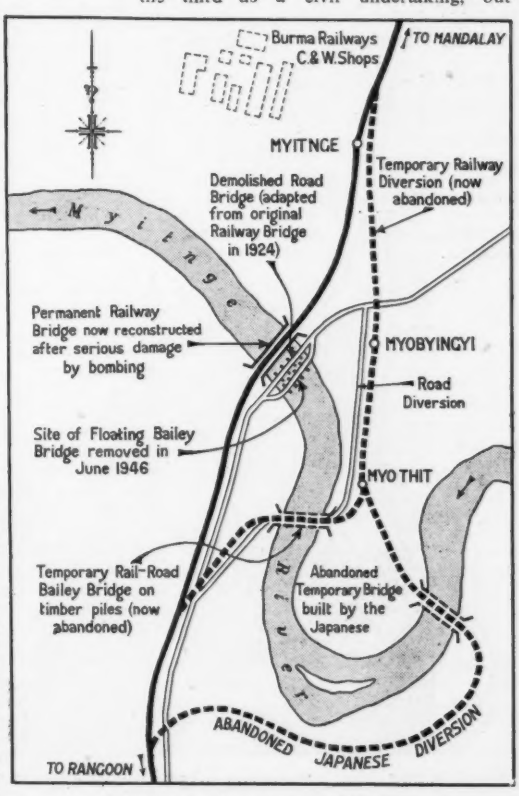
In October, 1945, shortly after the civil administration had begun to resume control of the railway, the need for rehabilitation of the permanent railway bridge over the Myitnge was listed as one of the highest priority works, and, after discussion with Army engineers, the Director of Transportation, and the Public Works Department it was decided that:—

(1) A temporary pile bridge on a diversion be constructed to carry railway loads at limited speeds, and the railway diverted thereto to enable the Bailey bridge over the permanent alignment to be dismantled.

(2) A floating Bailey road bridge be constructed to carry the road traffic during the dry season; and

(3) Full rehabilitation of the permanent railway bridge be put in hand.

The first two of these works were accepted as military commitments, and the third as a civil undertaking, but



Bridging the river at Myitnge

Special train crossing the completed bridge at the official opening ceremony. Note the new superstructure, and concrete piers 4 and 5 and abutment in background

assisted as and where possible by Army engineers and with the loan of certain construction plant.

The floating road bridge was completed and brought into use on January 16, 1946, and the temporary pile bridge with nine 60-ft. triple-single Bailey spans was ready in May to carry the railway over the new diversion. Meanwhile the steelwork of the main 150-ft. spans for the permanent railway bridge had been received from India and unloaded at site in March, and plans had been prepared for launching them.

Girder Launching and New Concrete Work

As speed was all-important, the end-on cantilever method was adopted. This necessitated special steel falsework to take the extra stresses, to which certain of the truss members would have been subjected temporarily during launching; and also special launching rollers.

It was further decided to rebuild the demolished abutments and pier No. 5 in mass concrete. Also, when the débris was cleared away from pier No. 4, it was found to be cracked badly and had to be dismantled and rebuilt from below water level.

As submerged débris prevented the use of a steel sheet piling cofferdam, the under-water cracks were plugged and grouted with the aid of a diver loaned by the Rangoon Port Commissioners. This work was completed just before early rains caused the river to rise, and, to enable the floating road bridge to be dismantled in June before the floods, road traffic was diverted over the temporary railway bridge, then floored for this purpose.

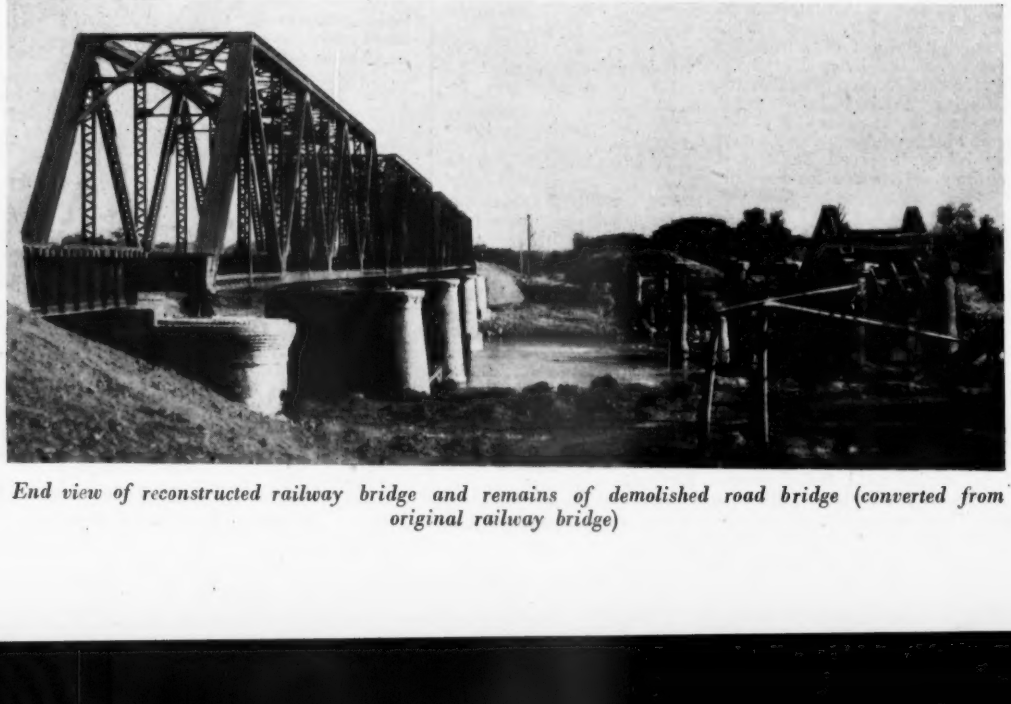
The special steel falsework was received from Calcutta in August, but the launching of the main spans could not be completed until the end of October owing to strikes in September and October. The final setting of the girders on the piers, removal of the falsework and rollers, and completion of the flooring and bracing, took six weeks.

Altogether, some 2,500 tons of cement concrete were placed in the new pier and abutments, and about 400 tons of steelwork were involved in the spans and 60 tons in the falsework; over 30,000 rivets had to be driven, and considerable quantities of earthwork were required in the erection-platform and approaches.

These works were carried out under the supervision of Mr. E. Procter, Chief Engineer, Burma Railways; Mr. J. Hossack, Deputy-Chief Engineer, Reconstruction; and, in the earlier stages, Mr. L. F. Merrylees, Temporary Engineer. Close co-operation by the military authorities, both direct and indirect, also assisted materially in the rapid and successful completion of the work.

An editorial note dealing with the Myitnge River bridges appears on page 638 this week.

PROPOSAL FOR LEOPOLDINA RAILWAY PURCHASE.—A member of the Constituent Assembly of the State of Minas Geraes suggested recently that the assembly should request from the Federal Government the loan of half of the Brazilian blocked sterling balance, to enable the State Government to purchase the Leopoldina Railway.



End view of reconstructed railway bridge and remains of demolished road bridge (converted from original railway bridge)

French Railway Strike Ended

Agreement to immediate revision of wages

AFTER the unsuccessful negotiations between the French Premier, M. Ramadier, and the railwaymen's leaders on June 10, which we reported last week, talks were resumed the next day and a settlement was reached early on June 12. The strike had lasted for five days, during which the paralysis of railway traffic reduced stations to the deserted condition shown in the view of the Gare de l'Est, Paris, reproduced below. During the period of the strike the Southern Railway maintained the "Golden Arrow" service between London and Calais, but cancelled sailings on the Newhaven-Dieppe route on June 9, and on the Folkestone-Calais route on June 12. All the company's Continental services returned to normal on June 13.

The strike was settled by the agreement that an extra credit of £20 million will be voted for an immediate adjustment in railwaymen's wages, pending an ultimate revision of scales of pay. In announcing the settlement on June 12, M. Ramadier said the railway system would be working normally again in two or three days' time, but that it would be a fortnight before French industry recovered completely from the effects of the strike. It is estimated that the strike has cost the country £8 million.

Deserted platforms at the Gare de l'Est, Paris, during the strike

G.W.R. Developments in Maintenance Equipment—9*

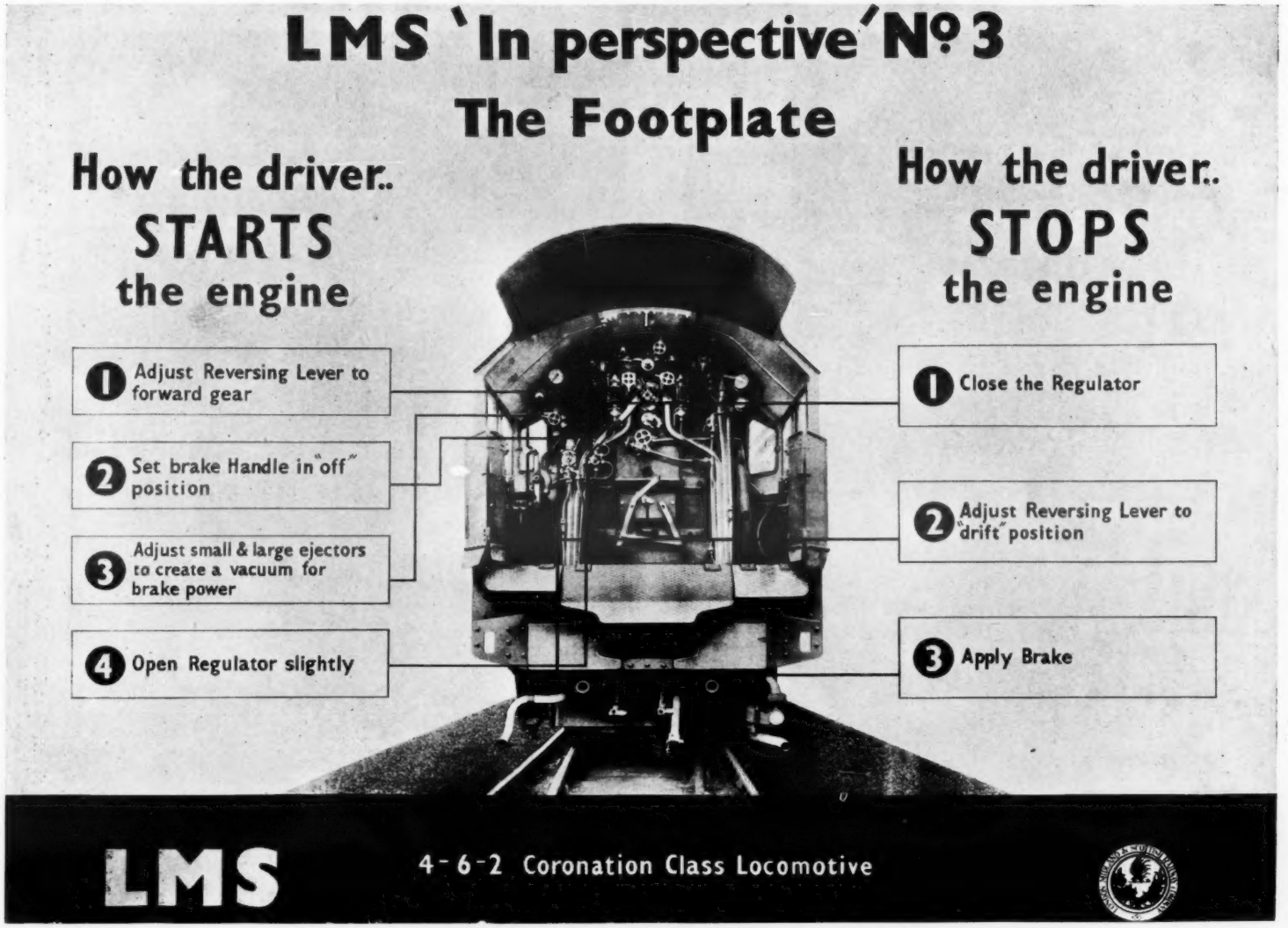
Petrol-driven and hand-operated rail cutters

THE illustration above shows, from left to right, the John Bull petrol saw of the Howard Pneumatic Engineering Co. Ltd., Eastbourne; and hand rail cutters manufactured by Llewellyn Wynn Williams Limited, of Darlington, and Buck & Hickman Limited, Whitechapel Road, E.1, respectively.

The John Bull saw, which was described in detail in our July 12, 1946, issue, will cut through a rail in less than 10 min., or the motor can be fixed in a drilling cramp to drill a fishbolt hole in less than 5 min. The motor also can be mounted in a frame, which was illustrated in our previous article, and used to bore vertical holes in timbers and sleepers to take through bolts or coach screws; thus fitted, the apparatus is carried by two men.

The hand rail cutters are worked by one man, and are less arduous in operation than a hacksaw; they can saw through a rail in about half an hour.

* Previous articles in this series appeared in our issues of April 4 and 25; May 2, 9, 16, and 23; and June 6 and 13



No. 3 in the series of L.M.S.R. posters illustrating familiar items of railway equipment

RAILWAY NEWS SECTION

PERSONAL

Mr. L. T. Huxtable, Assistant Chief Mechanical Engineer, Rhodesia Railways, who has been acting as Chief Mechanical Engineer since the retirement of Major M. P. Sells on September 1, 1946, is retiring, after almost 34 years' service.

We regret to record the death on June 10, in his 69th year, of Mr. Percy Cuthbert Quilter, a Director of the British Electric Traction Co. Ltd., Dorada Railway Co. Ltd., and La Guaira & Caracas Railway Co. Ltd.

Mr. E. J. Bray is retiring from the position of European Traffic Manager, Missouri Pacific Railroad, on June 30. The company will cease to be represented in Europe.

G.W.R. Appointments

C.M.E. Department

Mr. K. J. Cook, Locomotive Works Manager, Swindon, to be Works Assistant to Chief Mechanical Engineer, Swindon.

Mr. H. Randle, Carriage & Wagon Works Manager, Swindon, to be Locomotive Works Manager, Swindon.

Mr. C. T. Roberts, Assistant to Carriage & Wagon Works Manager, Swindon, to be Carriage & Wagon Works Manager, Swindon.

Mr. H. Colton, Assistant to Carriage & Wagon Works Manager, Swindon, to be Assistant Carriage & Wagon Works Manager, Swindon.

Mr. G. W. G. Tew, Assistant to Divisional Locomotive Superintendent, Paddington, to be Assistant to Carriage & Wagon Works Manager, Swindon.

Mr. G. L. Elliott, Draughtsman, Drawing Office, Swindon, to be Assistant to Divisional Locomotive Superintendent, Paddington.

Engineering Department

Mr. A. N. Butland, Assistant Divisional Engineer, Taunton, to be Assistant to Chief Engineer, Paddington.

Mr. P. H. Spence, Assistant, Divisional Engineer's Office, Taunton, to be Assistant Divisional Engineer, Taunton.

Mr. W. J. Scott, Assistant Divisional Engineer, Neath, to be Divisional Engineer, Cardiff, on the retirement of Mr. A. W. Hollingdale.

Mr. J. R. Hammond, Assistant, Divisional Engineer's Office, Bristol, to be Assistant Divisional Engineer, Neath.

Mr. G. V. E. Morgan, Assistant, Divisional Docks Engineer's Office, Port Talbot, to be Assistant Divisional Docks Engineer, Swansea.

Goods Department

Mr. C. Hamnett, Cartage Superintendent, Paddington, to be Chief Clerk, District Goods Manager's Office, Swansea.

Surveyor's & Estate Department

Mr. W. R. Thomas, Valuer, Paddington, to be District Estate Agent, Wolverhampton.

Hotels & Catering Department

Mr. W. P. Keith to be Assistant to Hotels & Catering Manager, Paddington.

Mr. Julian Seymour Tritton, M.I.C.E., M.I.Mech.E., M.I.Loco.E., M.Amer.S.M.E., a Partner in the firm, and in charge of the Railway & Marine Department, London, of Rendel, Palmer & Tritton, who, as recorded in our May 23 issue, has been elected President of the Institution of Locomotive Engineers for 1947-48, was born in Calcutta on October 31, 1889, son of the late Sir Seymour B. Tritton, K.B.E., with a long family connection with the Indian railways. Mr. Tritton was educated at Rugby School and King's College. He served an apprenticeship at the Vulcan Foundry on locomotive work, with Sir W. G. Armstrong, Whitworth & Co. Ltd., on hydraulic and marine engineering, and with Willans & Robinson Limited (now part of the English Electric Co. Ltd.) at Rugby, on diesel engines and steam turbines. After a short period on the Continental inspection staff of Rendel, Palmer & Tritton, he joined the Bombay, Baroda & Central India Railway as Assistant Locomotive Superintendent in 1914, and was in charge of the Northern Division of that railway from 1915 to 1917. He was commissioned in the Royal Engineers in 1917, and, after a period of home service on special duty at the War Office, served in the 1918-19 Afghan Campaign. Mr. Tritton joined the technical staff of Rendel, Palmer & Tritton in 1920, and became a Partner in 1928. He was in charge of the firm's Calcutta branch from 1929 to 1932; and he is at present in charge of the Railway & Marine Department, London. During the recent war he was appointed Technical Adviser to the India Supply Mission in Washington in connection with Lend-Lease contracts for locomotives and rolling stock. He has always taken a great interest in internal-combustion engine design, particularly in connection with locomotive and railcar developments; and his paper on "Railcars" in 1934 won the Trevithick Award of the Institution of Locomotive Engineers. During the recent war he became Honorary Secretary of the Diesel Engine Users Association. Mr. Tritton is a member of many committees of the British Standards Institution, and was recently a delegate to the Commonwealth and International Standardisation Conferences in London. He gave the first Seymour Biscoe Tritton Lecture before the Institution of Locomotive Engineers in 1946.

Photo] [Lafayette

Mr. J. S. Tritton

President, Institution of Locomotive Engineers, for 1947-48

We regret to record the death on June 10 of Mr. Percy Edward Marmion, a Director of the Imperial Smelting Corporation Limited and of Millars' Timber & Trading Co. Ltd.

Mr. W. Marshall Clark, General Manager of the South African Railways & Harbours, who arrived recently in England, will be attending the International Railway Congress at Lucerne.

International Railway Congress

The following is a list of British railway delegates to the International Railway Congress which opens at Lucerne on June 23:—

Great Western Railway: Sir James Milne, Messrs. G. F. Luttrell, D. Blee, F. R. E. Davis, F. W. Hawksworth, J. A. Kay, A. S. Quartermaine, C. J. Selway, Shirley James.

L.M.S.R.: Earl Peel, Sir Ralph Glyn, Sir Robert Greig, Sir Francis Joseph, Sir William Wood, Messrs. G. L. Darbyshire, T. W. Royle, W. K. Wallace, G. Morton, H. J. Comber, H. G. Ivatt, A. P. J. Ball, D. M. Evans Bevan, D. R. Lamb, F. W. Crews.

L.N.E.R.: Sir Charles Newton, Messrs. M. Beevor, O. H. Corble, H. H. Halliday, V. M. Barrington-Ward, T. F. Cameron, J. C. L. Train, A. H. Peppercorn, H. W. H. Richards, L. H. K. Neil, H. G. Sayers, C. K. Bird, C. G. G. Dandridge, L. P. Parker, W. S. Barnes, E. M. Rutter G. B. Barton, C. E. R. Sherrington, J. H. Glendinning.

Southern Railway: Colonel Eric Gore Browne, Sir Herbert Walker, Messrs. J. Elliot, A. Endicott, O. W. Cromwell, V. A. M. Robertson, R. H. Hacker, E. A. W. Turbett, F. B. Ilston.

L.P.T.B.: Messrs. A. B. B. Valentine, P. Croom-Johnson.

Ministry of Transport: Sir Cyril Hurcomb, Sir Alan Mount, Mr. J. Benstead.

Railway Clearing House: The Hon. E. G. Eliot.

Dr. F. Wanner

General Secretary, Swiss Federal Railways

Mr. J. F. C. Reynolds

General Manager, South Indian Railway, who receives the honour of knighthood

Mr. F. H. Sedgwick

Appointed Assistant Accountant, L.N.E.R.

Dr. Fritz Wanner, who, as General Secretary, Swiss Federal Railways, will be closely associated with the proceedings of the International Railway Congress which opens at Lucerne on June 23, was born in Zürich on December 20, 1906. After passing through the cantonal school there, he studied law in the Universities of Berne, Berlin, and Zürich, where he obtained his degree of Doctor at Law. During the earlier part of his career he practised journalism, especially in the fields of transport and military matters. In 1929 he entered the service of the Swiss Federal Railways, and gained valuable practical experience during his work at various Swiss stations and at the Paris and London agencies of the Federal Railways. During his stay in London he had the opportunity to make useful contacts with the Railway Research Service. In 1931 he went to the General Secretary's Office as Legal Assistant and in 1939 was promoted Chef de Section and entrusted with the press service, which he organised and developed. Towards the end of 1940 he was made Assistant General Secretary, and in that capacity did much towards keeping the public informed on railway questions and transport problems in general. He was appointed General Secretary in 1944 on the death of Mr. Francis Torche. Dr. Wanner has published a number of articles in the daily press and professional journals.

Mr. Jasper Fellowes Crofts Reynolds, C.I.E., M.C., A.M.I.Mech.E., General Manager of the South Indian Railway, who receives the honour of knighthood in the King's Birthday Honours List, was born in October, 1893, was educated at Lancing, and was apprenticed to the Great Western Railway at Swindon. Mr. Reynolds served as a trooper in the Wiltshire Yeomanry from August, 1914, and went to France in the 38th Division Cavalry Squadron in 1915. After being commissioned in the A.S.C. in 1917, he was posted to the mechanical transport attached to the Garrison Artillery. He was awarded the M.C. and later was appointed an Inspector of Mechanical Transport. On demobilisation in 1919, Mr. Reynolds joined the South Indian Railway as an Assistant Mechanical Engineer, and in March, 1929, was confirmed in the rank of Deputy Chief Mechanical Engineer. During that period he advocated and initiated a scheme of reorganisation, whereby the Transportation Department controlled and arranged the supply of power from day to day, while the Mechanical Department retained responsibility for the maintenance of locomotives and stock in running sheds and shops. After being appointed Chief Mechanical Engineer in 1931, he was transferred to the post of Chief Transportation Superintendent, and became General Manager in 1941. He was elected President, Indian Railway Conference Association, for 1946-47, and again for 1947-48.

Sir Charles Newton's Farewell Message to L.N.E.R. Staff

Sir Charles Newton, who retired on June 6 from the position of Chief General Manager, L.N.E.R., and has been appointed a Director, has contributed to the *L.N.E.R. Magazine* the following message:—

One of the hardest things that a railwayman can have to do is to say "good-bye" to his friends and colleagues at the end of a long and happy career. To break with the daily routine, to give up that close contact with the many interesting and intricate problems with which railway work is concerned, and which have become part and parcel of his life, is a great wrench. I have spent 50 years in the railway service, and now that my time has come to retire I can emphatically say I have enjoyed every moment of it, and if I could have had my time over again I would not choose any other career. My one great disappointment has been that, as a result of the war and of the difficult period through which we are now passing, many of the schemes for the betterment of the L.N.E.R. on which I had set my heart are still awaiting completion. I now leave it to other and younger men to bring to fruition what I have done my best to initiate. Nevertheless, I am proud of what, in spite of all difficulties, the L.N.E.R. has been able to accomplish, and particularly of the noble part played by the company's staff during the war years. It was a tremendous help to me, during those trying times, to know that everyone was doing his (or her) duty so unflinchingly and ungrudgingly, and I shall never forget the loyal service and co-operation which I have at all times received from officers and staff alike. It is with this in mind, and with the knowledge that, as a member of the board, I shall have many opportunities in the future of meeting my old L.N.E.R. friends and keeping in touch with railway affairs, that I can go into retirement with a lighter heart than I might otherwise have done.

In the firm assurance that, come what may, the fine traditions of the L.N.E.R. will always endure, I wish to my successor, and you all, the very best of luck in the years to come.

Mr. F. H. Sedgwick, Senior Assistant to the Chief Accountant, L.N.E.R., who, as recorded in our May 30 issue, has been appointed Assistant Accountant, joined the Great Central Railway in the Accountant's Office at Manchester in 1900. He graduated through the Expenditure and Stores Accounts Sections to the post of Chief Clerk, Stores Section (1921), and took charge of the Expenditure and Stores Accounts Sections in 1927. He was transferred to London in 1929 to take charge of the road transport, docks and other ancillary accounts of the L.N.E.R. Southern Area; and was appointed Assistant Book Keeper at headquarters in 1932. After a short period as Expenditure Assistant to the Chief Accountant, he was appointed Chief Book Keeper in 1936, and remained in that position until appointed Assistant to the Chief Accountant in November, 1942. From 1917 to 1919 Mr. Sedgwick was lent to the War Department to investigate and report on the system of accounting operating at military camp railways in England.

Mr. J. O. Dick has retired from the board of Glenfield & Kennedy Limited.

The King has awarded the Imperial Service Medal to 29 employees of the Department of Railways, and to six employees of the Department of Road Transport & Tramways, New South Wales; and to 167 employees of the Department of Transport, Canada.

We regret to record the death on June 16, at the age of 76, of Sir Thomas Somerset, D.L., Chairman of the Northern Counties Committee, L.M.S.R., a member of the County Donegal Railways Joint Committee and a Director of the Dundalk, Newry & Greenore Railway Company.

The King's Birthday Honours List

The following is a selection, further to that published in our last week's issue, of honours of transport and industrial interest from the King's Birthday list:—

Knights Bachelor

Mr. Alfred Charles Turner, C.S.I., C.I.E., M.B.E., lately Financial Commissioner of Railways, Government of India.

Mr. Jasper Fellowes Crofts Reynolds, C.I.E., M.C., General Manager, South Indian Railway.

C.B. (Civil Division)

Mr. Norman Arthur Guttery, Under-Secretary, Ministry of Transport.

C.M.G.

The Hon. Charles Ernest Culley, lately Minister for Transport, State of Tasmania.

Major Clarence Roy Turner, retiring General Manager & Harbour Authority, Gold Coast Government Railway & Takoradi Harbour.

C.I.E.

Mr. Francis Theodore Castells, Financial Adviser & Chief Accounts Officer, Bengal-Nagpur Railway.

Mr. Arthur George Hall, M.B.E., General Manager, North Western Railway, India.

C.B.E. (Civil Division)

Mr. Henry Hugh Grindley, O.B.E., Director & General Manager, Central Uruguay Railway.

O.B.E. (Civil Division)

Mr. James Carson, Director, Stewarts and Lloyds Limited.

Mr. Arthur Errington Heskett, General Manager (Antofagasta), Antofagasta (Chili) & Bolivia Railway.

Mr. Robert Buntin Lang, Assistant Director of Finance, Ministry of Transport.

Mr. Frank Ernest Pittman, lately General Passenger Agent, Newfoundland Government Railway.

Mr. William Wood, Signal & Telegraph Engineer, London Midland & Scottish Railway.

M.B.E. (Civil Division)

Mr. William Bell, Superintendent of Signals, British Overseas Airways Corporation.

Mr. Terence Edgar Menzies Cameron, Secretary to the Chief Railway Commissioner, Burma.

Mr. Arthur Clarke, Chief Railway Inspector, Mersey Docks & Harbour Board.

Mr. John Cunningham, General Manager, Boiler Division, Ruston & Hornsby Limited, Lincoln.

Mr. Charles Edward Dench, Assistant Signal Engineer, East Indian Railway, Lucknow.

Mr. Wilfred Charles Gaskin, Assistant Secretary, British European Airways Corporation.

Mr. John Thomas Hardy, Assistant Traffic Officer, Nigerian Railway.

Mr. James William Heap, lately Materials Inspector, North of England, Southern Railway.

Mr. Ernest Oswald Jones, Engineering Inspector, Crown Agents for the Colonies.

Mr. Chandra Sinha Mehta, General Manager, Mewar State Railway.

Mr. William Henry Penson, Executive Assistant, L.P.T.B.

Mr. Frederick Victor Rolfe, Chief Building Inspector, Southern Railway.

Mr. Frederick Grange Umpleby, Senior Assistant (Outdoor Machinery), Chief Mechanical Engineer's Department, Derby, L.M.S.R.

Mr. James Annan Wilson, District Locomotive Superintendent, Gonda, Oudh Tirhut Railway.

Traders' Traffic Conference Liverpool Meeting

The Traders' Traffic Conference held its annual meeting in Liverpool last week. The conference was formed early in the present century to consider all questions connected with trade, commerce, and manufacture, particularly those relating to the transport of goods by rail, road, canal, sea, and air.

Its membership is large, covering firms in many different industries all over the United Kingdom, and the monthly meetings, usually held alternately in London and Derby, are attended by the transport managers of the firms belonging to the conference. The Chairman of the conference is Lt.-Colonel H. R. Caulfield-Giles, who has held that office since 1940.

The conference holds Board of Trade certificates under the appropriate sections of the Railway & Canal Traffic Act, 1888, and the Railways Act, 1921. It is recognised as a negotiating body by railway companies and Government departments. Members are also constituent members of the Traders' Co-Ordinating Committee, on which body the conference is represented by its Chairman. Lt.-Colonel Caulfield-Giles is also a member of the standing sub-committee of the Traders' Co-Ordinating Committee.

At present the registered office of the conference is at Bellground, Hoyland Common, near Barnsley. It previously had its headquarters at Birmingham, but these were destroyed by enemy action in 1940, resulting in the loss of all records.

The conference is now studying the impact of the five-day week on the transport services of the country, with particular reference to the hold-up on roads and railways over week-ends. It is felt that it is in the urgent interest of individual firms to consider their own position in the light of the new conditions, and to see what can be done on Saturdays to make arrangements for handling and despatching goods.

During the Liverpool meeting, the members of the Conference were invited by the Mersey Docks & Harbour Board to participate in a cruise on the river and sea channels of the Mersey in the Birkenhead Corporation's ferry steamer *Bidston*. The party left the Princes Landing Stage at noon on June 10, and lunch and tea were served on board. The 60 members attending the conference were received on the *Bidston* by Mr. F. H. Cave, Deputy General Manager of the Mersey Docks & Harbour Board.

In the evening, the conference entertained Mr. R. J. Hodges, General Manager & Secretary, Mersey Docks & Harbour Board, and certain of the Board's officials, to a dinner at the Exchange Station Hotel.

Lt.-Colonel Caulfield-Giles, who presided at the dinner, thanked the Mersey Docks & Harbour Board for its hospitality, and also Mr. John Powell, Chairman of the sub-committee, for the excellent arrangements made for the members.

Mr. R. J. Hodges, responding to the toast, expressed regret that, owing to the coal situation, the Board had been forced to cancel some 20 similar cruises in its yacht *Galatea*, but hoped that next year the position would be easier.

Members of the conference on board the Mersey ferry "Bidston"

The Transport Bill in the House of Lords

Government defeat on long-distance and short-distance haulage amendments

On Thursday, June 12, the House of Lords again went into committee on the Transport Bill, and the Earl of Selkirk moved an amendment to provide that a separate Scottish Transport Executive should be set up for Scotland.

The Earl of Airlie said that road transport in Scotland required decentralisation, as the industry was dependent on quick decisions which could be made only by resident and responsible management.

Viscount Swinton said that the formidable trinity of the Scottish Industrial Council, the Scottish T.U.C., and the General Assembly were in favour of devolution, and on this occasion the trinity was in unity.

Viscount Addison, Secretary of State for Dominion Affairs, said that it would not be necessary to refer every Scottish question to London, as the people on the spot would have a great measure of control, and he was sure they would exercise it effectively. Supporters of the amendment had confused nationalist sentiment with a practical problem of transport.

Viscount Samuel said that on the whole the argument was rather in favour of the amendment than against it.

The Earl of Selkirk said the question was one of economics and not of feelings. He would withdraw the amendment and bring the matter up again for consideration on the Report stage.

Regional Boards Proposed

Viscount Bridgeman moved an amendment to enable the Commission to set up regional boards if it thought it necessary. Scotland, he said, might be the strongest argument for a regional organisation, but it was only one of the areas where such might be necessary.

Viscount Addison said that local opinion and the focusing of local needs were amply provided for in the Bill. He had no doubt that, as sensible people, the executives would decentralise operating responsibility into regions so far as they found it necessary. They had full power so to do in the Bill.

Viscount Swinton said the Opposition would want to know on the Report stage whether the Commission would have power to set up regional boards to exercise such combined functions as it thought right. If there was any doubt, the Opposition would wish to return to the charge.

On assurance that an inquiry would be made into the proposal, the amendment was withdrawn.

Lord Morrison accepted an amendment moved by Lord Teynham to ensure that a member representing shipping should be appointed to transport users' consultative committees.

The Earl of Selkirk moved an amendment to secure that the interests of persons who used passenger transport services were represented on each transport users' consultative committee.

Lord Morrison said that if any widely representative association of travellers emerged, the Minister would probably invite them to send representatives, but it would be wrong to create a right for a body which did not exist.

The amendment was eventually, by leave, withdrawn, Viscount Addison agreeing that he would, on Report, insert the words "travelling public" in an earlier subsection.

Viscount Swinton moved to insert after Clause 13 a new clause (Protection of Travel Agencies) to ensure that all travel agencies should be treated alike, whether they were vested in the Commission or not.

Lord Gifford said that the clause was important because nearly all travel agencies outside Cooks were comparatively small and needed a certain amount of protection.

Lord Walkden said that the Government accepted the principle of no discrimination, and were prepared to agree on a suitable form of words.

The amendment was withdrawn.

Compensation

Lord Beveridge moved an amendment to make the compensation payable one-fifth greater than was at present proposed in the Bill. He said that if the Government was going to insist on compulsory purchase it ought to pay something extra on that account. It should pay cash and not stock, which it might not be possible to convert.

Lord Nathan said that the proposal would involve an increased expenditure of £200,000,000 falling on the Exchequer. Stock Exchange value was a fair value.

The Earl of Selborne said that the Government was causing the direst distress in some of the humblest families in the country and inflicting terrible injuries on pensions funds and charities.

Viscount Simon suggested that the proper method would be to decide the amount of compensation by an impartial tribunal.

The amendment was negatived.

There was further discussion on the Clause referring to compensation on Monday, June 16, when the Earl of Radnor said that if the arrangements in the Bill went forward, railway stockholders would lose 42 per cent. of their income, whereas under the amendment they would lose 35½ per cent. The amendment was not only logical, but was fairer than the Government proposal, and the Government would get a very good bargain even if it accepted this amendment.

Lord Nathan said that the compensation proposals had been carefully considered and he was unable to accept the amendment.

The Earl of Dudley said that a forced exchange which created a loss of income of 60 per cent. to stockholders was not a fair exchange. In the case of railway debentures there would be a loss of income of 23 per cent.

The amendment was negatived.

Lord Beveridge moved an amendment to make it obligatory on the part of the Commission to buy compensation transport stock at par from a holder if he wished to sell within the next ten years.

Viscount Maugham, supporting the amendment, said that never in the history of the world had there been a case of sale and purchase in which an article at the will of the purchaser might become practically worthless.

Lord Nathan, rejecting the amendment on the grounds that it would not be sound finance, said that the Commission any time within the next ten years could be called on to make repayment at par, and would be faced with the possibility of being called on to find a sum of anything up to £100,000,000.

Withdrawing his amendment, Lord Beveridge appealed to the Government not to end its crusade by inflicting such great hardship, which posterity would condemn.

Lord Nathan moved an amendment which, he said, had been the subject of discussion and negotiation between the Ministe; and the railway companies. Representations were made in the House of Commons that strict application of the provisions of the Bill would prevent the inclusion of certain amounts that the companies would have brought into their net revenue in accordance with their normal practice.

The Financial Secretary to the Treasury had given an undertaking that if there were monies which might be allowed to be included in the net revenue account, the Minister would be prepared to consider that with his advisers. That consideration had been given, and the figures agreed with the accountants of the main-line railway companies and the Controller of the L.P.T.B., which were additions to compensation, were:—G.W.R., £574,000; L.N.E.R., £150,000; L.M.S.R., £799,000; Southern Railway, £227,000; L.P.T.B., £63,000.

The amendment allowed these sums to accrue to the benefit of the companies referred to and extended the principle of the concession to the minor railway companies and to the canals.

The amendment was agreed to.

Long-Distance Carriage

There was considerable discussion on amendments to provide that ordinary long-distance carriage should mean, in relation to an undertaking, the carriage of goods 80 miles instead of the 40 miles proposed, and that the permitted radius be 50 miles and not 25 miles as proposed.

Earl Howe said that he could find only hampering legislation in the road clauses of the Bill. It was a tragedy that, just when amalgamation had been arrived at between road and rail, the whole thing was torn up and artificial restrictions imposed.

Viscount Maugham suggested that so much difficulty would be caused by the Government proposal that the right thing would be to increase the radius and say nothing about the amount of work that could be done within it.

The Lord Chancellor said he did not claim that the Minister of Transport had any divine inspiration in selecting the figure of 40 miles; the line must be purely arbitrary. The 40 miles brought the undertaking within the taking over only if that distance measured by road went out of the circle. If the operator confined himself to journeys within the circle, no matter how far he went, he would not be interfered with.

It was anticipated that only about 20,000 of the 91,000 vehicles operating under "A" licences would be taken over and about 2,000 out of a total of 58,000 "B" licences. The Government had gone as far as it could possibly go—perhaps it had gone too far—and in taking over that small proportion of the vehicles, the Government was acting very reasonably towards the industry.

Lord Swinton, commenting on the statement that the 40-mile limit was purely arbitrary, said that it was purely foolish, for one could not go across Greater London, from Liverpool to Manchester, or from Edinburgh to Glasgow.

The Marquess of Salisbury, Leader of the Opposition, asked the Government to make a concession or to reconsider the whole matter, as otherwise, not for Party reasons, but in the interests of industry and the community, the Opposition would be obliged to vote for the amendments.

He had been told that one of the main sources of black market petrol was

coupons sold by lorry drivers, and if the totals of such coupons were taken into account in assessing mileage, lorry owners would have a very raw deal.

The first of the amendments, namely, that to increase the limit of 40 miles to 80 miles, was carried by 73 to 21. The second amendment, to increase the radius from 25 miles to 50, was carried by 68 votes to 21.

On Tuesday, Lord Beveridge moved an amendment to the effect that the carriage of goods in a vehicle under "A" licence subject to a contract limiting its use to the goods of a single undertaking should not be treated as ordinary long-distance traffic.

A Fundamental Difference

The Lord Chancellor said that he could not accept the amendment. Its effect was to say that work done under ordinary contract "A" licences should not be regarded as ordinary long-distance carriage. This seemed to be quite illogical. There was a fundamental difference between contract "A" and "C" licences, and anyone dissatisfied with the service could take out a "C" licence and run his own transport.

The Marquess of Salisbury asked the Government to give further consideration to the matter. The Opposition did not want to divide, but if the Government did not accept the amendment, they would have to divide.

The Lord Chancellor said all he asked was that the Transport Commission should not stand condemned before it had a chance.

Viscount Swinton said he would accept the proposition that the Commission should be given a fair chance. But the Commission did not need this power to force other people out of business.

The amendment was altered to read that "the carriage of goods in a vehicle authorised for use under a licence granted under sub-section (1) of section 7 of the Road and Rail Traffic Act, 1933," should not be treated as ordinary long-distance carriage.

Thus amended, the amendment was carried by 83 votes to 18.

Carriage of Milk

Earl de la Warr moved an amendment to add the carriage of milk to certain other forms of road haulage to be exempted from the provisions relating to ordinary long-distance carriage. He said the milk carriage business was already completely rationalised, and trade was controlled by the Milk Marketing Board.

The Lord Chancellor said that the Milk Marketing Board did not carry the milk, but merely contracted with haulers to carry the milk. The special tankers for conveying milk were out of the Bill, and they were only concerned there with those lorries which were used for the carriage of milk churns and which could be used for any other purpose.

Viscount Swinton said if the amendment were carried it would not prevent the Commission from carrying milk if it wanted to do so.

The amendment was carried by 82 votes to 17.

On an amendment, moved by Lord Teynham, to provide that the carriage of perishable foodstuffs should not be treated as ordinary long-distance carriage, the Lord Chancellor said he was willing to discuss the matter with the Minister.

The amendment was withdrawn.

Viscount Simon moved an amendment that in any proceeding before a tribunal the burden of proving that an undertaking was liable to be compulsorily acquired by the Commission should be upon the Commission.

The Lord Chancellor, resisting the amendment, said that the Commission was bound by law to take over certain forms of transport and not to take over others. The doctrine of the onus of proof could not apply where the various parties were taking steps throughout which they were compelled by the law of the land to take.

The Earl of Selborne said that elementary justice demanded that the burden of proof should be on the Commission. A man was on trial for his livelihood. He was being accused by the Commission of having carried on a form of livelihood that in future was to be illegal for private enterprise.

During further debate, Viscount Simon said he did not know what the Lord Chancellor meant by saying that the question of onus of proof was not appropriate here. If a hauler disputed the right of the Commission to acquire his business, the onus of proving that his business should be acquired ought to rest on the Commission.

The amendment was carried by 78 votes to 18.

Staff and Labour Matters

Railway Wages

The Court of Inquiry appointed by the Minister of Labour to hear railway trade union applications to the main-line railway companies for a reduction in the weekly hours of work and a general increase in wages of £1 per week, held its first public session on Saturday, June 14, and resumed daily sittings on Monday, June 16.

Evidence in support of the application was given first by Mr. J. Benstead, for the National Union of Railwaymen, who argued that railway wages were inadequate; that senior signalmen's wages were in some cases below the level of London street cleaners and other municipal unskilled workers; that railway wages generally did not compare reasonably with rates in other industries where the workers also enjoyed more favourable conditions; and that, in effect, as railway charges were below their economic level the railwaymen were subsidising the higher wages being paid in the coal mining, engineering, and other industries.

He claimed that there was a steady drift of experienced men from the railway industry, and that the only way to stop it was to improve the salaries, wages, and general conditions of railway service, and make them more attractive. He also urged strongly the claim for a guaranteed week of 40 hours, consisting of five guaranteed days of eight hours, with one rest day in each six week days, and for Sunday to be excluded from the guaranteed week.

He was followed by Mr. C. N. Gallie, of the Railway Clerks' Association, who represented that salary increases have not kept pace with the rising cost of living; that railway salaries compare unfavourably with those paid to Civil Service clerical officers, Post Office postal and telegraph staff, Local Government and other staff of large concerns, and that the percentage increases in salaries already made are substantially lower than the average percentage increase in wage rates granted to workers generally.

Mr. W. P. Allen, for the Associated Society of Locomotive Engineers and Firemen, contended that locomotive men worked under conditions which had changed little in 50 years, and that, because of dissatisfaction with rates of pay and general conditions, over 6,000 footplate staff and engine cleaners had left the railway service.

Mr. Robert Openshaw then presented the railway shopmen's claim for an increase of £1 per week in the basic rates and a reduction in working hours from 47 to 40.

On June 17, Mr. Adams Clarke gave evidence for the railway companies in which he explained that, since the railways came under the control of the Minister of Transport at the outbreak of war in 1939, all major claims relating to wages and conditions of service had been dealt with by the Railway Executive Committee.

At a meeting of the railway companies and the trade unions on May 9, the Minister of Transport made it clear that the Government would not intervene until all the usual processes of negotiation had been exhausted. As a result of this meeting, and in view of the magnitude of the present claims and the far-reaching effects which a settlement might have on the level of railway charges and the consequent repercussions on trade and industry, the Chairmen of the Companies felt compelled to advise the Minister that, as the Transport Bill had been passed by the House of Commons, they could not assume the responsibility for dealing with the present claims.

Under the control arrangements, the cost of any settlement would fall on the Government, and the companies would not wish to take any action which might embarrass the Government or commit in any way the proposed British Transport Commission which is to take over responsibility for the railways as from January 1, 1948.

In these circumstances, the companies proposed to furnish the Court with all relevant facts and figures and assist it as much as possible, but they felt they were not in a position to express any views.

Mr. H. Adams Clarke, continuing, remarked that the cost of season tickets and workers tickets would probably need to be raised from 20 per cent. to 65 per cent. above the 1939 figure. Of 632,096 workers employed by the companies, 580,377 were covered by the claim. To give full effect to it would add nearly £90,000,000 a year to the salaries and wages bill, and to grant a 44-hour week and the other concessions would add some £60,000,000 to working costs.

He pointed out that the railway staff had benefits in free rail warrants at holiday times, privilege tickets at quarter fare, and uniform and clothing provided.

A reduction of hours in the railway workshops, unless output could be increased, would seriously affect repair and construction.

There were 1,200 miles of new track to be laid and 750 miles of sleepers and 100 miles of rail to be replaced. Arrears in building, including war damage, could only be estimated financially at £28,000,000. There were now 120,000 fewer goods wagons and 6,000 fewer passenger coaches.

Replying to the union suggestion that the companies had lost thousands of men, Mr. Adams Clarke claimed that during the same period they had attracted a greater number than had been lost.

Speaking of the deterioration of the financial position of the railway companies since 1946, Sir William Wood, President of the Executive Committee of the L.M.S.R., said that for the whole year he estimated that the net revenue earned would be £21,800,000 less than in 1946, largely because of a fall in traffic and increased expense.

The inquiry was adjourned.

Parliamentary Notes

L.M.S.R. Bill

The London Midland & Scottish Railway Bill, as amended, was considered by the House of Commons on June 3, and ordered for third reading. The Bill was read the third time and passed on June 6. It was read the first time in the House of Lords on June 9, and referred to the examiners.

Southern Railway Bill

The Southern Railway Bill was read a second time in the House of Commons on June 3.

L.N.E.R. Bill

The London & North Eastern Railway Bill was read the third time, and passed, in the House of Commons on June 12. The Bill was read the first time in the House of Lords on June 12, and referred to the examiners.

L.P.T.B. Bill

The London Passenger Transport Board Bill was read the third time, and passed, in the House of Commons on June 10. It was read the first time in the House of Lords on June 11, and referred to the examiners.

Questions in Parliament

Priority Sleeping Berths

Mr. R. K. Law (South Kensington—C.) on June 3 asked the Minister of Transport if he was aware that persons travelling on night trains between Euston and Manchester were unable to have their names put on the waiting lists for first class sleeper accommodation, as most of the sleepers were reserved for Government officials, until the day before the train left; and if he would take steps to remedy that state of affairs.

Mr. Alfred Barnes (Minister of Transport) in a written answer, stated: No. Mr. Law is misinformed. The railway company holds on average 57 per cent. of the first class sleeping berths on this route and allots them to passengers in order of application. Any remaining applicants are put on a waiting list and are offered, again in order of application, any unused berths in the allocation held by my department for priority passengers; but demands on this route are so far in excess of the priority berths held that these can only rarely be returned to the company. Of priority berths generally, only one-tenth are taken by Government officials.

Export of Railway Wagons to South Africa

Major Peter Roberts (Sheffield, Ecclesall—C.) on June 5 asked the Prime Minister whether he would institute immediate negotiations with the Government of South Africa for the supply to Great Britain of 2,500,000 tons of coal within the next 12 months and the export from this country of 1,000 railway wagons to that Dominion.

The Prime Minister (Mr. C. R. Attlee): The amount of coal exported from South Africa in 1946 was about 4 million tons. A considerable proportion of this was made available to British users outside the United Kingdom. The possibility of increasing exports at present is at our request being considered by the Union authorities. It is, however, clear from a recent ministerial statement in South Africa that an increase of the order suggested by Major Roberts would not be feasible. As regards railway wagons for South Africa, an order for 1,200 was recently placed in this country, but delivery will not be possible for some time. From the South African statement to which I have referred, it appears that the provision of these extra wagons would not of itself appreciably increase the amount of coal available for export from South Africa.

Major Roberts: May I ask the Prime Minister, first of all, whether any communications have passed between his Government and the High Commissioner for South Africa in this country, because, when the question was put down, no such communication had been made? Is he further aware that the High Commissioner is anxious to try and produce this amount of 2,500,000 tons of coal, and that my information is that, if the extra wagons were available, the extra coal would be possible for this country?

The Prime Minister: As a matter of fact, I discussed this matter very fully myself with Mr. Waterson when he was over here, and I have gone into the question of what coal can be made available. With regard to wagons, the point was raised, but, as a matter of fact, the order for wagons had been placed only a short time ago. Therefore, we cannot expect these wagons to be produced in about three weeks.

Reserved Compartment

Mr. George Jeger (Winchester—Lab.) on June 9 asked the Minister of Transport whether he was aware that it was the practice to keep a first class compartment locked and labelled "not for public use" on the 4.35 p.m. train from Waterloo; and whether he would have that stopped and so allay the irritation of the ordinary citizens who were regular passengers on that train.

Mr. Alfred Barnes stated in a written answer: I am making inquiries and will circulate the result in the Official Report.

London-Southend Railway Service Breakdown

Mr. H. Channon (Southend-on-Sea—C.) on June 9 asked the Minister of Transport if he was aware of the chaos which had existed when the London to Southend railway service had broken down on Whit Monday, with the result that nearly 30,000 persons had been stranded and many of them forced to sleep on the beach; and whether he would make a statement.

Captain R. J. Gunter (Essex, South East—Lab.) also asked the Minister of Transport if he would make a statement, on the circumstances by which 10,000 persons had been marooned at Southend, on Monday, May 26, consequent on the failure of water supplies for L.M.S.R. locomotives; why no assistance had been asked from the Southend waterworks until 6 p.m., although the trouble had been known to the railway company at 3 p.m.; why the suggestion to boost water supplies to the engines by hoses with the aid of the N.F.S. had been turned down; and why the restaurant room at Fenchurch Street had not been kept open to provide drinks for the incoming passengers.

Mr. Alfred Barnes: About 36,000 persons travelled on this line to Southend on Whit Monday. A failure in the locomotive water supply at Shoeburyness depot first became evident at 2.30 p.m., and the Shoeburyness Council was immediately asked for a supply from its mains. Unfortunately this proved ineffective, owing to a defect in the tanks. Arrangements made for engines to take water at Southend also failed to produce adequate supplies, and it was ultimately necessary to by-pass the meter. No suggestion to any railway official that the N.F.S. might have been able to assist can be traced. The last train left Southend at 1.48 a.m., and I am informed that there were no passengers left on the station or in nearby streets at that time. The staff serving the refreshment room at Fenchurch Street who live in the Southend neighbourhood had been on duty throughout the day and were not asked to stay after 10.30 p.m.

Captain Gunter: Is the Minister aware that this water problem has been known to the railway company at Shoeburyness for a long time; and why have no steps been taken previously to deal with it?

Major D. W. T. Bruce (Portsmouth North—Lab.): Would the Minister indicate why his department is responsible for incidents of this kind, as many of us are under the impression that the railway companies are responsible, at least until they are nationalised?

Mr. Barnes: That is the point I have been making in my reply. In reply to the first supplementary question, I could not say, but I will make inquiries as to whether this defect was known before the incident occurred.

Station Amenities at Treforest

Mr. George Thomas (Cardiff Central—Lab.) on June 9 asked the Minister of Transport if he would state the average number of passengers who used the Treforest Trading Estate Station each week; whether he was aware of the total lack of shelter for passengers, and that lavatory accommodation on this station was non-existent; and what steps he proposed to take to improve the amenities for workers travelling to the trading estate from this station.

Mr. Alfred Barnes stated in a written answer: I am informed that about 700 people use the halt every day. Two shelters are provided. The narrow platforms hamper the provision of lavatory accommodation, but this problem is being re-examined.

Locomotives for Coal Traffic

Lt.-Colonel Granville Sharp (Spen Valley—Lab.) on June 9 asked the Minister of Transport what was the approximate proportion of railway company engines normally engaged in hauling coals.

Mr. Alfred Barnes: Twenty to thirty per cent.

Colonel Sharp: Is the Minister satisfied that the proportion will be adequate to ensure that all the coal trucks do not remain in sidings for a long period?

Mr. Barnes: I do not think that there is any justification for the inference that coal trucks do remain in sidings for any length of time. In any case, that is not the question I have been asked to answer.

Increases in Railway Charges

Mr. Thomas Reid (Swindon—Lab.) on June 9 asked the Minister of Transport what was the approximate annual loss on the running of the railways at present; by what percentage, approximately, railway fares and freight rates had been increased since 1939; and to what extent the loss had been caused by transfer of traffic to road vehicles plying for hire.

Mr. Alfred Barnes: In regard to the first part of the question, I would refer Mr. Reid to the answer I gave to Air-Commodore A. V. Harvey (Macclesfield—C.) on May 12 last. Main-line railway fares and freight rates have been increased since 1939 by 33⅓ per cent. for ordinary passengers and merchandise by passenger train; by 25 per cent. in all other cases. I have no information on the last part of the question.

Wing-Commander N. J. Hulbert (Stockport—C.) on June 9 asked the Minister of

Transport if he would now make a statement about an increase in railway fares.

Mr. Alfred Barnes stated in a written answer: I am not at present in a position to add to the statement which I made on May 12 in answer to a question by Air-Commodore A. V. Harvey (Macclesfield—C.).

Atomic Energy Exhibition Train

Major D. W. T. Bruce (Portsmouth North—Lab.) on June 9 asked the Minister of Supply what objections he had to the organisation of an atomic energy train exhibition to tour Great Britain this autumn.

Mr. John Wilmot (Minister of Supply) stated in a written answer: I have no sort of objection. Quite the contrary. There are, however, difficulties which I am discussing with the Minister of Transport.

Heavy Industries in South Wales

Mr. Peter Freeman (Newport—Lab.) on June 9 asked the Minister of Supply whether he had any further statement to make on the future of the iron, steel, and tinplate industries in South Wales, and, particularly, whether he would confirm the retention and consider the extension of the plant of John Lysaght Limited for wide cold-reduction steel at Newport.

Mr. John Wilmot, in a written answer, stated: I hope to make a statement shortly.

Railways' Expenditure on Propaganda

Mr. J. Platt-Mills (Finsbury—Lab.) on June 10 asked the Minister of Transport whether he could now give an undertaking that all money spent by the railway companies on propaganda against the Transport Bill would be deducted from any compensation payable in respect of the nationalisation of the railways.

Mr. Alfred Barnes, in a written answer, stated: As I have previously informed the House, expenditure on propaganda incurred by the railway companies would not fall upon the Control Account with the Government under the Railway Control Agreements. I have not thought it necessary to deal with the points expressly in the provisions of the Transport Bill. I have no doubt that the railway companies will deal properly with any such expenditure in their accounts.

Railway Staff Tea Facilities

Mr. Evelyn Walkden (Doncaster—Lab.) on June 9 asked the Minister of Transport if he would inquire into the reasons for the delay in providing suitable arrangements for providing the railway staff at Doncaster Central Station, numbering 180 workpeople, with cups of tea during working hours, in accordance with the request made by the N.U.R. Doncaster No. 2 Branch in February last; and if he would expedite the provision of that facility.

Mr. Alfred Barnes: The staff can obtain tea at reduced prices from the refreshment room between 7.30 a.m. and 10 p.m. daily. As soon as additional refreshment room staff is available a 24-hour service will be provided, as an experiment.

Mr. Walkden: Is the Minister aware that, during the war, excellent facilities were provided on the station for the troops and the Armed Forces, that these facilities could easily be transferred to the staff, and that his department has failed to do that? What action does he propose to take to expedite the matter?

Mr. Barnes: That is not a question for my department. I cannot deal with what happened on this station during the war, but I have stated in my reply that the matter is under investigation.

Mr. Walkden: If the Minister treats the staff with the same priority as he treated the troops, everything will be all right.

Rochdale—Bacup Line

Mr. H. Sutcliffe (Royton—C.) on June 12 asked the Minister of Transport if the proposal to close the L.M.S.R. line between Rochdale and Bacup had been cancelled, in view of the representations from residents throughout the district.

Mr. Alfred Barnes wrote in reply: No.

Anti-Nationalisation Posters

Major D. W. T. Bruce (Portsmouth North—Lab.) on June 12 asked the Attorney-General whether he was aware that a number of posters, affixed to hoardings in various parts of the country, and purporting to be issued by the railway companies and the Road Haulage Association in pursuance of an anti-nationalisation campaign, displayed no particulars of the name and address of the printer; and what action he proposed to take in instances where no particulars of the printer, as required, were displayed.

Sir Hartley Shawcross (Attorney-General), in a written answer, stated: My attention has not previously been drawn to this matter. Such inquiries as have been made have so far failed to disclose any breach of the law. If, however, Major Bruce will give me further particulars of the location of the posters to which he refers I will have further inquiries made.

Railway Staff Resignations

Mr. Thomas Reid (Swindon—Lab.) on June 9 asked the Minister of Transport how many railway employees had left the service of the railways in 1947 up to date; and if they represented a normal or an abnormally high percentage of the total number of railway employees.

Mr. Alfred Barnes: I regret that it has not been possible to collect all the information in the time available. I will circulate the answer in the Official Report as soon as possible.

Mr. J. A. Sparks (Acton—Lab.): Is the Minister aware that on reaching the retiring age and electing to take their pensions, for some unknown reason, railway staffs are subsequently refused re-employment by the railway companies; and, in view of this very serious loss to the railways of experienced men and women, will he look into the matter to see if it is not possible to allow retired members to be re-employed?

Mr. Barnes: Obviously I cannot answer a question like that at a moment's notice. If Mr. Sparks will communicate such evidence to me, I will look into the matter.

Mid-Week Holiday Travel

Mr. V. J. Collins (Taunton—Lab.) on June 9 asked the Minister of Transport whether (in addition to the staggering of hours of work, and of holidays, he would urge, to relieve week-end congestion on the railways, that firms should arrange for a proportion of staff holidays to start in mid-week.

Mr. Alfred Barnes: I would refer Mr. Collins to the answer given by the Minister of Labour to Mr. J. A. Sparks (Acton—Lab.) on March 27.

Lt.-Commander Gurney Braithwaite (Holderness—C.): Is not this week-end congestion being rapidly adjusted by the rise in railway fares?

There was no reply.

MONTREAL TERMINAL AREA DEVELOPMENT.—Designs have been prepared for a group of three new buildings which, provided the proposed scheme goes through, will dominate the site of the Central Station of the Canadian National Railways at Montreal. These new buildings, although designed to express their separate identity, would appear as a complete group and be connected to each other and to the railway station. The sketch reproduced below shows, on the left, what the International Aviation building would look like when completed; this building houses the air lines terminal with space rented to commercial airlines for booking offices, etc. In the centre rises the C.N.R. administrative headquarters, providing 350,000 sq. ft. of floor space for the railway departments, and adjoining this building on the west side the C.N.R. propose to erect an hotel which will provide 700 bedrooms in its initial stage, and which eventually will include 1,000 bedrooms. In working out this ambitious scheme of development, the Montreal Town Planning Commission apparently envisages the entire area as a major focal point in the layout of this section of the city.

Montreal Terminal Area Development

Suggested development of the Central Station area of the Canadian National Railways at Montreal (*see paragraph above*)

Notes and News

Transport of Motorcars.—During the past three months the L.M.S.R. has supplied 3,611 special rail vans for the movement to ports of new motorcars intended for export.

Assam Railways & Trading Co. Ltd.—A dividend at the rate of 8 per cent. per annum has been declared on the company's "A" stock, and will be paid for the half-year ended March 31, 1947, on July 1 next.

Senior Draughtsman (Engineering) Required.—A senior draughtsman (engineering) is required by the Kenya & Uganda Railways & Harbours for one tour of two to four years in the first instance. Candidates must have a sound knowledge of the design of permanent way and railway yard layouts, and some experience of railway signalling would be an advantage. See Official Notices on page 663.

Production Engineer Required for India.—A production engineer, aged between 25 and 40, is required by the Indian Government Railways. Candidates must hold B.Sc. (Engineering) degree or equivalent, have had training in a planning office for production of light and heavy engineering components and in a jig and tool design office, have had four years' experience in the production department of a manufacturing firm or railway workshop, and have had experience in handling staff. See Official Notices on page 663.

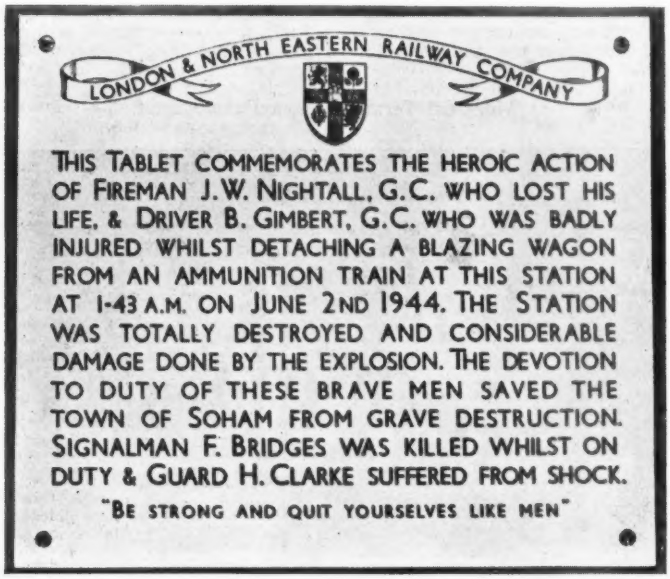
Memorial to Railwaymen at Cambridge.—A tablet to commemorate the gallant action of L.N.E.R. railwaymen was unveiled by Captain R. G. Briscoe, M.C., Lord Lieutenant of the County of Cambridge, at Soham Station, Cambridge, on June 1. The tablet, which is illustrated below, describes how Fireman J. W. Nightall, G.C., lost his life, and Driver B. Gimbert, G.C., was injured badly, when detaching a blazing wagon from an ammunition train at Soham Station on the night of June 2, 1944, when the station was totally destroyed. Also mentioned are Signalman F. Bridges, who was killed while on duty, and Guard H. Clarke, who suffered from shock.

Ministry of Transport Art Exhibition.—An exhibition of art was opened at the Ministry of Transport by the Minister of Transport, Mr. Alfred Barnes, on June 16. The exhibition is open until June 20, and among the arts represented are painting, drawing, photography, and handwork. The first award in the handwork section was made to Mr. F. E. Rayner, whose exhibits include a model 4-6-2 locomotive, which is coal fired and weighs some 49 lb. in working order, and the chassis of a 3½-in. gauge ex-G.N.R. 4-4-2 locomotive, construction of which began in 1936, and has been suspended since the beginning of the war.

Developments at C.A.V. Works, Acton.—Members of the Institution of Mechanical Engineers and delegates of overseas institutions and societies celebrating the centenary of the Institution last week, paid a visit to the Acton Works of C.A.V. Limited. The works employ some 3,500 persons, and the workshops and laboratories are equipped with a wide range of up-to-date apparatus for the manufacture and testing of fuel injection and electrical equipment used on heavy freight and passenger carrying vehicles, railcars, and industrial and stationary engines. Wherever possible, conveyor belts are used to handle the work delivered by lines of machines, the conveyors terminating at a series of inspection stations arranged across the shop. Where work is inspected between operations, inspection benches are arranged alongside the machines so that no time is lost in inspection, and faulty components may be detected immediately. Among the interesting operations noted by the visitors was the drilling of 0·008-in. holes in injector nozzles; the automatic welding of generator yokes by the "firecracker" method; the complete machining of fuel injector pump delivery valve holders in automatic lathes; and the superfine grinding of filing and other gauges to a tolerance of *plus* or *minus* 0·001 mm. (0·00004 in.). Mr. E. L. Cadwallader, Director & General Manager of C.A.V. Limited, in welcoming the guests, stated that the firm was now conducting a vast research programme and was out to capture the continental markets.

"Model Engineer" Exhibition, 1947.—The 22nd "Model Engineer" Exhibition will open at the New Royal Horticultural Hall, Vincent Square, Westminster, S.W.1, on August 20, and will continue for ten

Memorial to L.N.E.R. Railwaymen



A tablet to commemorate the gallant action of L.N.E.R. railwaymen was unveiled at Soham, Cambridge, on June 1 (see paragraph above)

British and Irish Railway Stocks and Shares

Stocks	Highest 1946	Lowest 1946	Prices June 17, 1947	Rise Fall
G.W.R.				
Cons. Ord.	61½	54½	55	—
5% Con. Pref. ...	126½	107	118½	—
5% Red. Pref. (1950)	106½	102½	103½	—
5% Rt. Charge ...	140½	122½	132½	— 1
5% Cons. Guar. ...	137½	118½	129½	—
4% Deb.	129½	106	122	—
4½% Deb.	129½	107	122½	—
4½% Deb.	130½	114	124½	—
5% Deb.	142½	125	135½	—
2½% Deb.	95½	81½	92½	—
L.M.S.R.				
Ord.	30½	26½	27½	—
4% Pref. (1923) ...	64	52½	58	—
4% Pref.	86	75½	79½	—
5% Red. Pref. (1955)	105½	97	98½xd	—
4% Guar.	108½	100	101½	— ½
4% Deb.	120	103	111½xd	— ½
5% Red. Deb. (1952)	108½	105½	104½	—
L.N.E.R.				
5% Pref. Ord. ...	7	5	6½	—
Def. Ord.	3½	2½	3½	—
4% First Pref. ...	59½	50½	54½	—
4% Second Pref. ...	29½	25½	27	— ½
5% Red. Pref. (1955)	104	97	98½	—
4% First Guar. ...	107	98	100½	— ½
4% Second Guar. ...	101	90	94½	—
3% Deb.	104	87½	97xd	—
4% Deb.	119½	102½	111½xd	—
4½% Sinking Fund Red. Deb.	107½	101½	101½xd	—
SOUTHERN				
Pref. Ord.	79½	70	72	—
Def. Ord.	24	19½	22½	—
5% Pref.	125½	107	117½	—
5% Red. Pref. (1964)	115½	106½	110½	—
5% Guar. Pref. ...	137½	119	129½	—
5% Red. Guar. Pref. (1957)	115½	107½	110½	—
4% Deb.	129½	105½	121xd	—
5% Deb.	139½	125½	131½xd	—
4% Red. Deb. (1962-67)	113½	104½	107½xd	—
4% Red. Deb. (1970-80)	115½	104½	108½xd	—
FORTH BRIDGE				
4% Deb.	109	103	103½	—
4% Guar.	105	102	99½	—
L.P.T.B.				
4½ "A"	133½	120½	125½xd	—
5% "A"	142½	130½	134½xd	—
3% Guar. (1967-72) ...	108	98½	104½xd	—
5% "B"	128½	117½	120½xd	—
"C"	64½	56½	62½	—
MERSEY				
Ord.	34	30	33	—
3% Perp. Pref. ...	76	69	71½	— 1
4% Perp. Deb. ...	117½	103	111	—
3% Perp. Deb. ...	98	81	92½	—
IRELAND*				
BELFAST & C.D.				
Ord.	8½	6	7½	—
G. NORTHERN				
Ord.	41½	30½	31	+ 1
Pref.	63¼	52	48	—
Guar.	97½	78½	86	— 3½
Deb.	107	97½	100½	—
IRISH TRANSPORT				
Common	19/2½	16/9	14/6	— 1/6
3% Deb.	107	100	104	—

* Latest available quotation

OFFICIAL NOTICES

Government of India

THE High Commissioner for India invites applications from British Subjects aged between 25 and 40 for an appointment as Production Engineer, Indian Government Railways.

Qualifications.—B.Sc. (Engineering) degree or equivalent: training in a planning office for production of light and heavy engineering components and in a jig and tool design office; four years' experience in Production Department of a manufacturing firm or railway workshop; experience in handling staff.

Appointment on contract for five years in the first instance.

Pay up to Rs. 1,500 a month (£1,350 a year) according to qualifications and experience, plus cost-of-living allowance.

Leave.—Free passage to and from India.

Further particulars and application forms may be obtained on request, by postcard, to the HIGH COMMISSIONER FOR INDIA, General Department, India House, Aldwych, London, W.C.2, quoting reference No. 336.

Latest date for receipt of applications, June 30, 1947.

FIFTY YEARS OF RAILWAY LIFE IN ENGLAND AND SCOTLAND. By Joseph Tatlow. Cloth. 8½ in. by 7 in. 223 pp. Illustrated. 10*s*. *By post* 10*s*. 7*d*.

A NATIONAL TRANSPORT PROGRAMME. With foreword by Sir James Milne. Outlines the approach of a long-term plan for transport covering State and private ownership; track costs, etc. Paper, 8½ in. by 5½ in. 27 pp. 1*s*. *By post* 1*s*. 2*d*.

MECHANICAL APPLIANCES FOR HANDLING RAILWAY TRAFFIC. By G. Bulkeley. An explanation of the employment of mechanical apparatus for handling and carting general goods. Cloth. 7½ in. by 5 in. 132 pp. Illustrated. 5*s*. *By post* 5*s*. 3*d*.

BELLMAN HANGARS for workshops, storage, etc., supplied and erected under licence. 89 ft. 5 in. clear span, 18 ft. clear height, 175 ft. long. Door openings for full width at each end if required.—BELLMAN HANGARS LIMITED, Terminal House, Grosvenor Gardens, London, S.W.1. Sloane 5259.

THE RAILWAY SYSTEM OF JAMAICA. A general description of the system and its traffics, with an account of economic problems; the motive power used; and some features of operation. By H. R. Fox, B.Sc., M.Inst.C.E., General Manager, Jamaica Government Railway. Reprinted from *The Railway Gazette*, January 5 and 12, 1945. *Price* 1*s*. *Post free* 1*s*. 2*d*.

Crown Agents for the Colonies

APPLICATIONS from qualified candidates are invited for the following post:—

SENIOR DRAUGHTSMAN (ENGINEERING) required by the Kenya & Uganda Railways & Harbours for one tour of 2 to 4 years in the first instance. Salary in the scale £500 a year, rising to £600 a year. Commencing salary up to the maximum may be granted according to age and war service. Cost-of-living allowance at present about £27 for a single man and for a married man between £81 and £145, according to number of dependants. Initial outfit allowance £30. Free passages and quarters. Candidates must have a sound knowledge of the design of permanent way and railway yard layouts and some experience of railway signalling would be an advantage. A general knowledge of structural engineering is also desirable. Apply at once by letter, stating age, whether married or single, and full particulars of qualifications and experience, and mentioning this paper, to the CROWN AGENTS FOR THE COLONIES, 4, Millbank, London, S.W.1, quoting M/N/12650 on both letter and envelope.

BRITISH WORK ON PERSIAN RAILWAYS. The achievements and difficulties of the R.Es. during the 15 months in which they laid the foundation for effective aid to Russia. Reprinted from *The Railway Gazette*, February 2 and 16, 1945. *Price* 1*s*. *Post free* 1*s*. 2*d*.

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days. A special feature this year will be an arena for working models, in which there will be frequent demonstrations of model ships and boats, and miniature petrol-driven racing cars in motion, and model aeroplanes in flight. *The Railway Gazette*, *The Railway Magazine*, and associated publications will be represented at the exhibition.

Steel Rails for Portugal.—The first British steel rails for Portugal to be exported from the G.W.R. Docks, Swansea, since before the war were shipped to Lisbon on June 11. The first shipment consisted of 500 tons, and 320 tons more went on June 13.

Collision at Chertsey, Southern Railway.—On June 15 a collision occurred at Chertsey between an electric train for Waterloo which had just pulled out of the sidings, and a goods train from Basingstoke to Feltham, which ran into the back of the passenger train. The first 20 wagons of the goods train, mostly empty, were damaged, and some mounted the station platform. The piling-up of the wagons also damaged the station roof. As a result of the collision, the Waterloo-Chertsey, and Virginia Water-Waterloo lines were blocked. Traffic on the road from Chertsey to Woking and Guildford, which passes over the railway by a level crossing, had to be diverted. The only casualty was the fireman of the goods train, who was injured slightly in jumping clear.

International Railway Conference in Stockholm.—On page 635 of our last week's issue we published an illustration showing Mr. G. O. V. Dahlbeck, General Manager, Swedish State Railways, speaking at the opening of the International Railway Conference in Stockholm. On the right of the illustration was shown, it was stated, a representative of the French National Railways; in fact, this description should have been "Monsieur Lemaire, Le Directeur du Service des Finances, of the Belgian National Railways."

Aire & Calder Navigation (Extension of Time).—The Minister of Transport has made the Aire & Calder Navigation (Extension of Time) Order, 1947 (S.R. & O. No. 1005).

Newcastle-Belfast Air Service.—British European Airways will open on July 1 a weekday service between Newcastle-on-Tyne, Carlisle, and Belfast. Two flights will be made daily in each direction.

C.P.R. Preference Dividend.—At a meeting of the C.P.R. board of directors held in Montreal on June 9, a dividend of 2 per cent. on the preference stock, in respect of the year 1947, was declared payable on August 1, 1947, to stockholders on record at 3 p.m. on July 1, 1947.

L.N.E.R. "Claud Hamilton" Locomotive Withdrawn.—On May 27 the L.N.E.R. withdrew from stock the 4-4-0 locomotive No. 2500, *Claud Hamilton*, which now will be broken up. This engine was one of a batch of 111 similar locomotives built by the Great Eastern Railway at Stratford between 1900 and 1911. It was named after the Chairman of the Great Eastern Railway, and in 1900 was exhibited at the Franco-British Exhibition in Paris. In 1925 the engine was rebuilt with a Belpaire firebox, and early in 1933 the whole class underwent further rebuilding in accordance with L.N.E.R. standards. The alterations included a round-top firebox, shorter cab, the removal of the lower parts of the splashers, and the fitting of L.N.E.R. standard chimneys.

Anglo-Scottish Air Services. — The timetables of internal services brought into operation by the British European Airways Corporation on May 19 effected various changes in the Anglo-Scottish routes. Edinburgh is now given a scheduled service from London for the first time since pre-war days, when it was served for a short period by North-Eastern Airways. The new Edinburgh route continues to Aberdeen and Lerwick. In consequence, the previous London-Glasgow Aberdeen service terminates at Glasgow, and there is a shuttle service between Glasgow and Prestwick. Two weekday services are provided between London and Glasgow, and one each way between London, Edinburgh, Aberdeen, and Lerwick.

At the G.W.R. Goods-Handling Demonstration

Group at St. Ervans Road depot on June 11 (*see our June* 13 *issue*) *showing, left to right: Mr. A. E. C. Dent, Road Motor Engineer, G.W.R.; Sir John E. Thornycroft; and Mr. David Blee, Chief Goods Manager, G.W.R.*

Railway Stock Market

Stock markets have recorded small indefinite movements in most sections, buyers again showing caution because of international political uncertainties and a disposition to await any fresh developments in connection with the U.S. aid to Europe suggestion. British Funds have weakened, particularly "irredeemable" stocks, sharp declines being recorded by 2½ per cent. Consols and 2½ per cent. Treasury Bonds, which were sold partly on the view that they may be somewhat overvalued at current levels if, as is being suggested, Mr. Dalton will be unable to bring forward any further major development for screwing down long-term interest rates.

To some extent leading industrials have been affected by the trend in gilt-edged stocks, prices recording moderate declines in most cases, although sentiment had the benefit of another good batch of dividend increases. It is realised, however, that results now coming to hand relate almost entirely to 1946, and that those coming to hand later in the year may make a less favourable showing bearing in mind that they will reflect the fuel crisis period. On the other hand, the tendency in the market is to ignore this factor and to concentrate attention on the extent to which net profits this year will benefit from the abolition of E.P.T in cases where it is possible to maintain trading profits.

Iron and steels showed steadiness and were unaffected by reports that drafting of a Bill for nationalisation virtually is completed. The market is fairly confident that with few exceptions current market prices of iron and steel shares are well below a fair compensation level in the event of nationalisation, and that compensation would have to take into account the value of assets, which in many instances are believed to appear in the balance-sheets at well below current values. There is still considerable uncertainty as to which companies or sections of the iron and steel industry would be included in any Government scheme for nationalisation.

Colliery shares were less prominent, Carlton Main losing ground on the directors' no liquidation decision. The market had assumed eventual liquidation, although this probably would not be in the best interests of shareholders in cases where coal companies have important non-colliery interests which can earn reasonable profits. Whitehead Iron & Steel, which advanced 17s. 6d. to £6 after the big profit increase and the raising of the dividend from 20 per cent. to 30 per cent., were a prominent market feature..

There has been very little movement in home railway stocks, buying interest in which was again mainly institutional, although in many instances current levels are attractive, bearing in mind the extent to which they are below take-over levels. Home rail junior stocks have been unresponsive to the probability that their final dividend payments will be somewhat increased by the addition of small amounts to the compensation in respect of profits for the period preceding the date of transfer.

These amounts are calculated to be equivalent to approximately 1·3 per cent. on Great Western ordinary, 0·2 per cent. on L.N.E.R. second preference, 0·8 per cent. on L.M.S.R. ordinary, 0·7 per cent. on Southern deferred, and 0·24 per cent. on Transport "C" stock.

There is a growing belief that over the next six months or so home railway junior stocks are not without possibilities of moderate appreciation in price, although it cannot be expected they will go above the take-over levels. L.N.E.R. second preference, after easing, rallied ¼ to 27¼, which, however, is two points below the take-over price. Southern deferred has also firmed up to 22½ which in this case is 1½ below the take-over level.

There has again been another general advance in road transport shares as a result of the Transport Bill amendments, further gains in shares of the operating companies ranging up to 10s. on balance; B.E.T. deferred was outstanding, this stock advancing by no less than £90 to £1,420, the highest level since 1937. The rise in the latter was, however, due in a large measure to wider recognition of the company's important non-transport interests and investments and to calculations in the market indicating that the current price may be materially below the actual break-up value of the stock.

Argentine rails have continued to move within very narrow limits, although in junior stocks fractional declines have predominated, there still being a fair amount of selling by holders who feel it may be more prudent to sell and reinvest in industrial shares, as the latter may go considerably higher if there is a really good turn in international affairs. Brazilian rails continued to droop with little fresh buying at current levels, and Central Uruguay stocks also lost further ground. Antofagasta ordinary eased to 14, but Nitrate rails strengthened to 87s. 6d. United of Havana 1906 debentures have remained firmer on expectations that a revised capital scheme is in prospect, while in other directions Canadian Pacifics moved up to 17⅞, mainly on talk of a pending increase in freight rates.

Traffic Table and Stock Prices of Overseas and Foreign Railways

	Railways	Miles open	Week ended	Traffic for week: Total this year	Traffic for week: Inc. or dec. compared with 1945/6	No. of Week	Aggregate traffics to date: Totals 1946/7	Aggregate traffics to date: Totals 1945/6	Aggregate traffics to date: Increase or decrease	Shares or Stock	Prices: Highest 1946	Prices: Lowest 1946	Prices: June 17, 1947
				£	£		£	£	£				
South & Central America	Antofagasta	834	8 6.47	45,750	+ 37,020	23	906,910	732,560	+ 174,350	Ord. Stk.	11	10¼	14
	Arg. N.E.	753	7.6.47	ps.327,100	+ps.46,400	49	ps.15,723,100	ps.14,423,600	+ps.1,299,500	,,	17	5	11
	Bolivar	174	May, 1947	$115,230	+ $20,745	22	$564,878	$559,135	+ $5,743	6 p.c. Deb.	6½	5½	16½
	Brazil	—	—	—	—	—	—	—	—	Bonds	30	26	33
	B.A. Pacific	2,771	7.6.47	ps.2,450,000	+ps.762,000	49	ps.119,077,000	ps.111,219,000	+ps.7,858,000	Ord. Stk.	8½	5½	11½
	B.A.G.S.	5,080	7.6.47	ps.3,142,000	+ps.397,000	49	ps.177,850,000	ps.173,238,000	+ ps.4,612,000	Ord. Stk.	16	10½	18
	B.A. Western	1,924	7.6.47	ps.1,271,000	+ps.284,000	49	ps.65,210,000	ps.58,948,000	+ ps.6,262,000	,,	19	9½	23
	Cent. Argentine	3,700	7.6.47	ps.2,912,250	+ps.116,000	49	ps.157,586,730	ps.154,370,356	+ ps.3,216,374	,,	10½	7½	19
	Do.	—	—	—	—	—	—	—	—	Dfd.	6	4½	14
	Cent. Uruguay	970	7.6.47	37,728	— 4,733	49	1,780,028	1,961,425	— 181,397	Ord. Stk.	8½	3½	22½
	Costa Rica	262	Mar., 1947	32,528	+ 1,760	39	252,900	252,872	+ 28	Stk.	15	12	12
	Dorada	70	Apr., 1947	29,700	+ 400	17	119,200	115,275	+ 3,925	1 Mt. Deb.	102½	99½	106½
	Entre Rios	808	7.6.47	ps.450,800	+ps.39,800	49	ps.20,997,000	ps.20,757,700	+ ps.239,300	Ord. Stk.	9	5½	11
	G.W. of Brazil	1,030	7.6.47	22,400	— 1,300	23	774,300	661,000	+ 113,300	Ord. Stk.	26/6	20/–	3⅜
	Inter. Ctl. Amer.	794	Apr., 1947	$1,158,970	+ $195,190	17	$4,750,346	$3,878,475	+ $871,871	—	—	—	—
	La Guaira	22¾	May, 1947	$115,718	— $7,249	21	$572,761	$583,855	— $11,094	5 p.c. Deb.	70	58	85½
	Leopoldina	1,9 8	7.6.47	63,812	+ 14,442	23	1,450,163	1,258,655	+ 191,508	Ord. Stk.	5	3½	14½
	Mexican	483	31.5.46	ps.1,464,000	+ps.459,100	22	ps.7,706,200	ps.13,441,600	+ ps.5,220,200	Ord. Stk.	1¾	¾	¾
	Midland Uruguay	319	May, 1947	17,386	— 5,440	48	185,778	204,277	— 18,499	—	—	—	—
	Nitrate	382	31.5.47	10,997	+ 746	22	91,182	93,282	— 2,100	Ord. Sh.	83/9	71/3	86/3
	N.W. of Uruguay	113	Apr., 1947	4,477	— 657	44	53,910	54,507	— 597	—	—	—	—
	Paraguay Cent.	274	6.6.47	₲72,498	+ ₲10,338	49	₲3,097,348	₲2,973,539	+ ₲123,809	Pr.Li.Stk.	78½	60	60½
	Peru Corp.	1,059	May, 1947	158,756	+ 22,668	48	1,676,971	1,538,021	+ 138,950	Pref.	16½	8¾	9½
	Salvador	100	Mar., 1947	c209,000	+ c34,000	39	c1,338,000	c1,255,000	+ c83,000	—	—	—	—
	San Paulo	153½	—	—	—	—	—	—	—	Ord. Stk.	119½	52½	175
	Taltal	156	May, 1947	3,700	— 95	48	44,715	36,995	+ 7,720	Ord. Sh.	22/6	15/3	20/–
	United of Havana	1,301	8.6.47	71,089	+ 9,073	49	3,403,875	2,970,974	+ 432,901	Ord. Stk.	2	1⅛	3
	Uruguay Northern	73	May, 1947	2,745	+ 673	48	15,510	19,422	— 3,912	—	—	—	—
Canada	Canadian National	23,535	Apr., 1947	9,004,750	+1,152,000	17	34,073,750	30,942,500	+ 3,131,250	—	—	—	—
	Canadian Pacific	17,037	7.6.47	1,474,000	+ 205,000	23	32,564,000	30,343,500	+ 2,220,500	Ord. Stk.	25½	16¾	17¾
Various	Barsi Light†	202	Mar., 1947	26,032	+ 3,375	52	271,575	272,272	— 697	Ord. Stk.	123½	111	110½
	Beira	204	Mar., 1947	97,709	+ 16,983	25	543,949	352,628	+ 191,321	—	—	—	—
	Egyptian Delta	607	10.5.47	16,831	+ 546	6	67,112	64,905	+ 2,207	Prf. Sh.	9¼	5	6½
	Manila	—	—	—	—	—	—	—	—	B. Deb.	75	60	69
	Mid. of W. Australia	277	Apr., 1947	18,404	— 1,260	39	167,312	172,148	— 4,836	Inc. Deb.	85	70	70
	Nigeria	1,900	Mar., 1947	447,385	— 28,271	52	4,645,226	3,636,760	+ 1,008,466	—	—	—	—
	Rhodesia	2,445	Mar., 1947	530,935	+ 12,797	25	3,292,108	2,994,202	+ 297,906	—	—	—	—
	South African	13,323	17.5.47	1,187,954	+ 87,369	7	8,273,444	7,432,993	+ 840,451	—	—	—	—
	Victoria	4,774	Jan., 1947	1,314,795	+ 110,075	30	—	—	—	—	—	—	—

† Receipts are calculated @ 1s. 6d. to the rupee